

S1. GENERAL INFORMATION Complete for all satellite applications.

| | | | | | |
|---|--------------------------------------|---|--|--|--|
| a. Space Station or Satellite Network Name: EHOSTAR-16 | | e. Estimated Date of Placement into Service: 9/15/2012 | | i. Will the space station(s) operate on a Common Carrier Basis: N | |
| b. Construction Commencement Date: 11/20/2009 | | f. Estimated Lifetime of Satellite(s): 15 Years | | j. Number of transponders offered on a common carrier basis: 0 | |
| c. Construction Completion Date: 6/21/2012 | | g. Total Number of Transponders: 175 | | k. Total Common Carrier Transponder Bandwidth: 0 MHz | |
| d1. Est Launch Date Begin: 7/1/2012 | d2. Est Launch Date End: 8/1/2012 | h. Total Transponder Bandwidth (no. transponders x Bandwidth) 4550 MHz | | i. Orbit Type: Mark all boxes that apply: <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) | | |
| 17.3 | G | 17.8 | G | R | Feeder Link for Broadcasting Satellite Service in FSS |
| 12.2 | G | 12.7 | G | T | Broadcasting Satellite Service - Video |

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

| | | | | | |
|---|--------------|--|--|---|--|
| a. Nominal Orbital Longitude (Degrees E/W): 61.5 W | | b. Alternate Orbital Longitude (Degrees E/W): | | c. Reason for orbital location selection: Consistent with Region 2 USA Plan and existing EchoStar license. | |
| 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): <u> </u> Degrees <u> </u> E/W | |
| d. Toward West: | 0.05 Degrees | e. Toward East: | | g. Westernmost: | |
| | 0.05 Degrees | | | h. Easternmost: | |
| i. Reason for service are selection (Optional): | | | | | |

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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. |
|---------------------|---|---|---|
| SA1 | S | | Area around Cheyenne, WY |
| SA2 | S | | Area around Gilbert, AZ |
| SA3 | S | | Area around Monee, IL |
| SA4 | S | | Area around Mt. Jackson, VA |
| SA5 | S | | Area around New Braunfels, TX |
| SA6 | S | | Area around Spokane, WA |
| SA7 | S | | CONUS and Puerto Rico |
| SA8 | S | | -8 dB contour of each downlink spot beam |
| SA9 | S | | CONUS |
| SA10 | S | | Visible Earth |

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

| (a) Beam ID | (b) T/R Mode | (c) Isotropic Antenna Gain | | (e) Pointing Error (Degrees) | (f) Rotational Error (Degrees) | (g) Min. Cross- Polar Iso- lation (dB) | (h) Polar- ization Switch- able? (Y/N) | (i) Polarization Alignment Rel. Equatorial Plane (Degrees) | (j) Service Area ID | Transmit | | | Receive | | | | |
|-------------------|--------------------|----------------------------|-------------------|---------------------------------------|---|---|--|---|------------------------|-----------------------------|--------------------------------------|------------------------------|------------------------------------|---------------------------------------|--|-----------------------|------------------|
| | | (c) Peak (dBi) | (d) Edge (dBi) | | | | | | | (k) Input Losses (dB) | (l) Effective Output Power (W) | (m) Max. EIRP (dBW) | (n) System Noise Temp (k) | (o) G/T Max. Gain Pt. (db/K) | (p) Min. Saturation Flux Density (dBW/m2) | Input Attenuator (dB) | |
| | | | | | | | | | | | | | | | | (q) Max. Value | (r) Step Size |
| R01R | R | 51.8 | 49.8 | 0.12 | | 30 | N | | SA1 | | | | 8128 | 12.7 | -100 | 21 | 0.5 |
| R01L | R | 51.8 | 49.8 | 0.12 | | 30 | N | | SA1 | | | | 8128 | 12.7 | -100 | 21 | 0.5 |
| R02R | R | 49.4 | 47.4 | 0.12 | | 30 | N | | SA2 | | | | 3715 | 13.7 | -100 | 21 | 0.5 |
| R02L | R | 49.4 | 47.4 | 0.12 | | 30 | N | | SA2 | | | | 3715 | 13.7 | -100 | 21 | 0.5 |
| R03R | R | 49.1 | 47.1 | 0.12 | | 30 | N | | SA3 | | | | 3467 | 13.7 | -100 | 21 | 0.5 |
| R03L | R | 49.1 | 47.1 | 0.12 | | 30 | N | | SA3 | | | | 3467 | 13.7 | -100 | 21 | 0.5 |
| R04R | R | 48.8 | 46.8 | 0.12 | | 30 | N | | SA4 | | | | 3548 | 13.3 | -100 | 21 | 0.5 |
| R04L | R | 48.8 | 46.8 | 0.12 | | 30 | N | | SA4 | | | | 3548 | 13.3 | -100 | 21 | 0.5 |
| R05R | R | 50.4 | 48.4 | 0.12 | | 30 | N | | SA5 | | | | 3467 | 15 | -100 | 21 | 0.5 |
| R05L | R | 50.4 | 48.4 | 0.12 | | 30 | N | | SA5 | | | | 3467 | 15 | -100 | 21 | 0.5 |
| R06R | R | 50.1 | 48.1 | 0.12 | | 30 | N | | SA6 | | | | 3548 | 14.6 | -100 | 21 | 0.5 |
| R06L | R | 50.1 | 48.1 | 0.12 | | 30 | N | | SA6 | | | | 3548 | 14.6 | -100 | 21 | 0.5 |
| CON | T | 36.1 | 30.1 | 0.12 | | 30 | N | | SA7 | 3.1 | 148 | 57.8 | | | | | |
| CON | T | 36.1 | 30.1 | 0.12 | | 30 | N | | SA7 | 3.1 | 148 | 57.8 | | | | | |
| SP01 | T | 49.8 | 41.8 | 0.12 | | 30 | N | | SA8 | 2.7 | 3.5 | 55.3 | | | | | |
| SP02 | T | 48.6 | 40.6 | 0.12 | | 30 | N | | SA8 | 1.7 | 8.9 | 58.1 | | | | | |
| SP03 | T | 50.1 | 42.1 | 0.12 | | 30 | N | | SA8 | 1.9 | 6.8 | 58.4 | | | | | |
| SP04 | T | 50 | 42 | 0.12 | | 30 | N | | SA8 | 1.6 | 12.6 | 61 | | | | | |
| SP05 | T | 48.5 | 40.5 | 0.12 | | 30 | N | | SA8 | 1.9 | 12.3 | 59.4 | | | | | |
| SP06 | T | 50.3 | 42.3 | 0.12 | | 30 | N | | SA8 | 1.6 | 6 | 58.1 | | | | | |
| SP07 | T | 48.1 | 40.1 | 0.12 | | 30 | N | | SA8 | 1.8 | 12 | 58.9 | | | | | |
| SP08 | T | 48.7 | 40.7 | 0.12 | | 30 | N | | SA8 | 1.7 | 8.9 | 58.2 | | | | | |
| SP09 | T | 48.9 | 40.9 | 0.12 | | 30 | N | | SA8 | 1.9 | 14.1 | 60.4 | | | | | |
| SP10 | T | 47.5 | 39.5 | 0.12 | | 30 | N | | SA8 | 2.1 | 11.7 | 58.2 | | | | | |
| SP11 | T | 50.2 | 42.2 | 0.12 | | 30 | N | | SA8 | 1.7 | 8.5 | 59.5 | | | | | |
| SP12 | T | 48.7 | 40.7 | 0.12 | | 30 | N | | SA8 | 2 | 9.5 | 58.5 | | | | | |
| SP13 | T | 47.1 | 39.1 | 0.12 | | 30 | N | | SA8 | 1.8 | 13.5 | 58.4 | | | | | |
| SP14 | T | 47.7 | 39.7 | 0.12 | | 30 | N | | SA8 | 1.9 | 14.1 | 59.2 | | | | | |
| SP15 | T | 48.5 | 40.5 | 0.12 | | 30 | N | | SA8 | 2.1 | 12.9 | 59.6 | | | | | |

| | | | | | | | | | | | | | | | | | |
|------|---|------|------|------|--|----|---|--|-----|-----|------|------|--|--|--|--|--|
| SP16 | T | 49.9 | 41.9 | 0.12 | | 30 | N | | SA8 | 1.9 | 13.2 | 61.1 | | | | | |
| SP17 | T | 47.4 | 39.4 | 0.12 | | 30 | N | | SA8 | 1.9 | 13.5 | 58.7 | | | | | |
| SP18 | T | 49.9 | 41.9 | 0.12 | | 30 | N | | SA8 | 1.6 | 6 | 57.7 | | | | | |
| SP19 | T | 48.5 | 40.5 | 0.12 | | 30 | N | | SA8 | 1.6 | 4.4 | 54.9 | | | | | |
| SP20 | T | 50.1 | 42.1 | 0.12 | | 27 | N | | SA8 | 1.6 | 3 | 54.9 | | | | | |
| SP21 | T | 45.3 | 37.3 | 0.12 | | 27 | N | | SA8 | 2.3 | 13.8 | 56.7 | | | | | |
| SP22 | T | 43.9 | 35.9 | 0.12 | | 30 | N | | SA8 | 2.5 | 10.5 | 54.1 | | | | | |
| SP23 | T | 49.8 | 41.8 | 0.12 | | 30 | N | | SA8 | 2.5 | 5.4 | 57.1 | | | | | |
| SP24 | T | 44 | 36 | 0.12 | | 30 | N | | SA8 | 2.2 | 12.3 | 54.9 | | | | | |
| SP25 | T | 47.7 | 39.7 | 0.12 | | 30 | N | | SA8 | 1.6 | 10.7 | 58 | | | | | |
| SP26 | T | 46.2 | 38.2 | 0.12 | | 27 | N | | SA8 | 1.6 | 13.2 | 57.4 | | | | | |
| SP27 | T | 45.1 | 37.1 | 0.12 | | 30 | N | | SA8 | 2.7 | 8.3 | 54.3 | | | | | |
| SP28 | T | 48 | 40 | 0.12 | | 30 | N | | SA8 | 1.6 | 5.4 | 55.3 | | | | | |
| SP29 | T | 48.4 | 40.4 | 0.12 | | 30 | N | | SA8 | 1.9 | 8.9 | 57.9 | | | | | |
| SP30 | T | 47.3 | 39.3 | 0.12 | | 30 | N | | SA8 | 2.1 | 10.7 | 57.6 | | | | | |
| SP31 | T | 48 | 40 | 0.12 | | 30 | N | | SA8 | 3 | 10.7 | 58.3 | | | | | |
| SP32 | T | 47.4 | 39.4 | 0.12 | | 30 | N | | SA8 | 1.9 | 11.7 | 58.1 | | | | | |
| SP33 | T | 46.7 | 38.7 | 0.12 | | 30 | N | | SA8 | 1.6 | 16.6 | 58.9 | | | | | |
| SP34 | T | 48.4 | 40.4 | 0.12 | | 30 | N | | SA8 | 1.9 | 12.6 | 59.4 | | | | | |
| SP35 | T | 47.6 | 39.6 | 0.12 | | 30 | N | | SA8 | 1.9 | 12.6 | 58.6 | | | | | |
| SP36 | T | 47.1 | 39.1 | 0.12 | | 30 | N | | SA8 | 1.9 | 13.8 | 58.5 | | | | | |
| SP37 | T | 48.5 | 40.5 | 0.12 | | 30 | N | | SA8 | 1.9 | 9.3 | 58.2 | | | | | |
| SP38 | T | 48.5 | 40.5 | 0.12 | | 30 | N | | SA8 | 1.9 | 12 | 59.3 | | | | | |
| SP39 | T | 48.6 | 40.6 | 0.12 | | 30 | N | | SA8 | 1.9 | 11.7 | 59.3 | | | | | |
| SP40 | T | 48.2 | 40.2 | 0.12 | | 30 | N | | SA8 | 2.6 | 8.7 | 57.6 | | | | | |
| SP41 | T | 47.7 | 39.7 | 0.12 | | 30 | N | | SA8 | 2 | 11.7 | 58.4 | | | | | |
| SP42 | T | 48.6 | 40.6 | 0.12 | | 30 | N | | SA8 | 2.6 | 8.3 | 57.8 | | | | | |
| SP43 | T | 48.7 | 40.7 | 0.12 | | 30 | N | | SA8 | 1.9 | 8.7 | 58.1 | | | | | |
| SP44 | T | 47.9 | 39.9 | 0.12 | | 30 | N | | SA8 | 2.1 | 5.6 | 55.4 | | | | | |
| SP45 | T | 45.7 | 37.7 | 0.12 | | 30 | N | | SA8 | 3.1 | 9.8 | 55.6 | | | | | |
| SP46 | T | 46.9 | 38.9 | 0.12 | | 30 | N | | SA8 | 2.2 | 6.2 | 54.8 | | | | | |
| SP47 | T | 48.4 | 40.4 | 0.12 | | 30 | N | | SA8 | 2.1 | 4.1 | 54.5 | | | | | |
| SP48 | T | 48.7 | 40.7 | 0.12 | | 30 | N | | SA8 | 3.2 | 6.6 | 56.9 | | | | | |
| SP49 | T | 49.2 | 41.2 | 0.12 | | 30 | N | | SA8 | 2.2 | 3.7 | 54.9 | | | | | |
| SP50 | T | 48.4 | 40.4 | 0.12 | | 30 | N | | SA8 | 1.8 | 7.6 | 57.2 | | | | | |
| SP51 | T | 48.4 | 40.4 | 0.12 | | 30 | N | | SA8 | 2.2 | 7.2 | 57 | | | | | |
| SP52 | T | 48.8 | 40.8 | 0.12 | | 30 | N | | SA8 | 2.1 | 7.9 | 57.8 | | | | | |
| SP53 | T | 48.5 | 40.5 | 0.12 | | 30 | N | | SA8 | 1.8 | 12.9 | 59.6 | | | | | |
| SP54 | T | 50.1 | 42.1 | 0.12 | | 30 | N | | SA8 | 2.8 | 4.1 | 56.2 | | | | | |

| | | | | | | | | | | | | | | | | | |
|------|---|------|------|------|--|----|---|--|------|-----|------|------|-------|-------|--|------|--|
| SP55 | T | 49.5 | 41.5 | 0.12 | | 30 | N | | SA8 | 1.8 | 6.8 | 57.8 | | | | | |
| SP56 | T | 50.1 | 42.1 | 0.12 | | 30 | N | | SA8 | 1.6 | 11.2 | 60.6 | | | | | |
| SP57 | T | 46.9 | 38.9 | 0.12 | | 30 | N | | SA8 | 1.8 | 15.5 | 58.8 | | | | | |
| SP58 | T | 50.2 | 42.2 | 0.12 | | 30 | N | | SA8 | 2.2 | 8.5 | 59.5 | | | | | |
| SP59 | T | 50 | 42 | 0.12 | | 30 | N | | SA8 | 1.8 | 12.6 | 61 | | | | | |
| SP60 | T | 48.3 | 40.3 | 0.12 | | 30 | N | | SA8 | 2.2 | 13.8 | 59.7 | | | | | |
| SP61 | T | 46.3 | 38.3 | 0.12 | | 30 | N | | SA8 | 2.1 | 13.2 | 57.5 | | | | | |
| SP62 | T | 48.6 | 40.6 | 0.12 | | 30 | N | | SA8 | 1.6 | 11.7 | 59.3 | | | | | |
| SP63 | T | 49.3 | 41.3 | 0.12 | | 30 | N | | SA8 | 1.6 | 11.2 | 59.8 | | | | | |
| SP64 | T | 49.6 | 41.6 | 0.12 | | 30 | N | | SA8 | 1.8 | 10 | 59.6 | | | | | |
| SP65 | T | 44.7 | 36.7 | 0.12 | | 30 | N | | SA8 | 1.6 | 15.8 | 56.7 | | | | | |
| SP66 | T | 47.5 | 39.5 | 0.12 | | 30 | N | | SA8 | 1.6 | 15.8 | 59.5 | | | | | |
| SP67 | T | 47.1 | 39.1 | 0.12 | | 30 | N | | SA8 | 1.8 | 12.9 | 58.2 | | | | | |
| SP68 | T | 43.6 | 35.6 | 0.12 | | 30 | N | | SA8 | 1.6 | 17.4 | 56 | | | | | |
| SP69 | T | 47.7 | 39.7 | 0.12 | | 30 | N | | SA8 | 1.6 | 6 | 55.5 | | | | | |
| SP70 | T | 50.1 | 42.1 | 0.12 | | 30 | N | | SA8 | 1.6 | 5.9 | 57.8 | | | | | |
| SP71 | T | 47 | 39 | 0.12 | | 30 | N | | SA8 | 1.6 | 10.7 | 57.3 | | | | | |
| CMD | R | 24 | 21 | 0.12 | | 30 | N | | SA9 | | | | 13804 | -17.4 | | -93 | |
| CMD | R | 24 | 21 | 0.12 | | 30 | N | | SA9 | | | | 13804 | -17.4 | | -93 | |
| TLMR | T | 36.1 | 32.1 | 0.12 | | 30 | N | | SA9 | 7.8 | 0.01 | 14.2 | | | | | |
| RFTR | R | 51.8 | 49.8 | 0.12 | | 30 | N | | SA1 | | | | 19953 | 8.8 | | -104 | |
| OMN | R | 9 | -4 | 0.12 | | 30 | N | | SA10 | | | | 4365 | -27.4 | | -83 | |
| OMN | R | 9 | -4 | 0.12 | | 30 | N | | SA10 | | | | 4365 | -27.4 | | -83 | |
| OMN | T | 9 | -4 | 0.12 | | 30 | N | | SA10 | 4 | 13.8 | 16.9 | | | | | |

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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) |
|-----------------|------------------------------|--------------|----------------------------|-------------------------------|----------------------------------|
| U0001 | 26000 | R | 17324 | R | C |
| U0003 | 26000 | R | 17353.16 | R | C |
| U0005 | 26000 | R | 17382.32 | R | C |
| U0007 | 26000 | R | 17411.48 | R | C |
| U0009 | 26000 | R | 17440.64 | R | C |
| U0011 | 26000 | R | 17469.8 | R | C |
| U0013 | 26000 | R | 17498.96 | R | C |
| U0015 | 26000 | R | 17528.12 | R | C |
| U0017 | 26000 | R | 17557.28 | R | C |
| U0019 | 26000 | R | 17586.44 | R | C |
| U0021 | 26000 | R | 17615.6 | R | C |
| U0023 | 26000 | R | 17644.76 | R | C |
| U0025 | 26000 | R | 17673.92 | R | C |
| U0027 | 26000 | R | 17703.08 | R | C |
| U0029 | 26000 | R | 17732.24 | R | C |
| U0031 | 26000 | R | 17761.4 | R | C |
| U0002 | 26000 | R | 17338.58 | L | C |
| U0004 | 26000 | R | 17367.74 | L | C |
| U0006 | 26000 | R | 17396.9 | L | C |
| U0008 | 26000 | R | 17426.06 | L | C |
| U0010 | 26000 | R | 17455.22 | L | C |
| U0012 | 26000 | R | 17484.38 | L | C |
| U0014 | 26000 | R | 17513.54 | L | C |
| U0016 | 26000 | R | 17542.7 | L | C |
| U0018 | 26000 | R | 17571.86 | L | C |
| U0020 | 26000 | R | 17601.02 | L | C |
| U0022 | 26000 | R | 17630.18 | L | C |
| U0024 | 26000 | R | 17659.34 | L | C |
| U0026 | 26000 | R | 17688.5 | L | C |
| U0028 | 26000 | R | 17717.66 | 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 |
| T0001 | 116.4 | U0001 | R01R | D0001 | CONR |
| T0003 | 116.4 | U0003 | R01R | D0003 | CONR |
| T0005 | 116.4 | U0005 | R01R | D0005 | CONR |
| T0007 | 116.4 | U0007 | R01R | D0007 | CONR |
| T0009 | 116.4 | U0009 | R01R | D0009 | CONR |
| T0011 | 116.4 | U0011 | R01R | D0011 | CONR |
| T0013 | 116.4 | U0013 | R01R | D0013 | CONR |
| T0015 | 116.4 | U0015 | R01R | D0015 | CONR |
| T0017 | 116.4 | U0017 | R01R | D0017 | CONR |
| T0019 | 116.4 | U0019 | R01R | D0019 | CONR |
| T0021 | 116.4 | U0021 | R01R | D0021 | CONR |
| T0023 | 116.4 | U0023 | R01R | D0023 | CONR |
| T0025 | 116.4 | U0025 | R01R | D0025 | CONR |
| T0027 | 116.4 | U0027 | R01R | D0027 | CONR |
| T0029 | 116.4 | U0029 | R01R | D0029 | CONR |
| T0031 | 116.4 | U0031 | R01R | D0031 | CONR |
| T0002 | 116.4 | U0002 | R01L | D0002 | CONL |
| T0004 | 116.4 | U0004 | R01L | D0004 | CONL |
| T0006 | 116.4 | U0006 | R01L | D0006 | CONL |
| T0008 | 116.4 | U0008 | R01L | D0008 | CONL |
| T0010 | 116.4 | U0010 | R01L | D0010 | CONL |
| T0012 | 116.4 | U0012 | R01L | D0012 | CONL |
| T0014 | 116.4 | U0014 | R01L | D0014 | CONL |
| T0016 | 116.4 | U0016 | R01L | D0016 | CONL |
| T0018 | 116.4 | U0018 | R01L | D0018 | CONL |
| T0020 | 116.4 | U0020 | R01L | D0020 | CONL |
| T0022 | 116.4 | U0022 | R01L | D0022 | CONL |
| T0024 | 116.4 | U0024 | R01L | D0024 | CONL |
| T0026 | 116.4 | U0026 | R01L | D0026 | CONL |
| T0028 | 116.4 | U0028 | R01L | D0028 | CONL |

| | | | | | |
|-------|-------|---|----------|---|---|
| U0030 | 26000 | R | 17746.82 | L | C |
| U0032 | 26000 | R | 17775.98 | L | C |
| D0001 | 26000 | T | 12224 | R | C |
| D0003 | 26000 | T | 12253.16 | R | C |
| D0005 | 26000 | T | 12282.32 | R | C |
| D0007 | 26000 | T | 12311.48 | R | C |
| D0009 | 26000 | T | 12340.64 | R | C |
| D0011 | 26000 | T | 12369.8 | R | C |
| D0013 | 26000 | T | 12398.96 | R | C |
| D0015 | 26000 | T | 12428.12 | R | C |
| D0017 | 26000 | T | 12457.28 | R | C |
| D0019 | 26000 | T | 12486.44 | R | C |
| D0021 | 26000 | T | 12515.6 | R | C |
| D0023 | 26000 | T | 12544.76 | R | C |
| D0025 | 26000 | T | 12573.92 | R | C |
| D0027 | 26000 | T | 12603.08 | R | C |
| D0029 | 26000 | T | 12632.24 | R | C |
| D0031 | 26000 | T | 12661.4 | R | C |
| D0002 | 26000 | T | 12238.58 | L | C |
| D0004 | 26000 | T | 12267.74 | L | C |
| D0006 | 26000 | T | 12296.9 | L | C |
| D0008 | 26000 | T | 12326.06 | L | C |
| D0010 | 26000 | T | 12355.22 | L | C |
| D0012 | 26000 | T | 12384.38 | L | C |
| D0014 | 26000 | T | 12413.54 | L | C |
| D0016 | 26000 | T | 12442.7 | L | C |
| D0018 | 26000 | T | 12471.86 | L | C |
| D0020 | 26000 | T | 12501.02 | L | C |
| D0022 | 26000 | T | 12530.18 | L | C |
| D0024 | 26000 | T | 12559.34 | L | C |
| D0026 | 26000 | T | 12588.5 | L | C |
| D0028 | 26000 | T | 12617.66 | L | C |
| D0030 | 26000 | T | 12646.82 | L | C |
| D0032 | 26000 | T | 12675.98 | L | C |
| CMD1 | 1000 | R | 17307 | L | T |
| CMD2 | 1000 | R | 17795.5 | R | T |
| TLM1 | 1000 | T | 12694 | R | T |
| TLM2 | 1000 | T | 12695 | R | T |
| TLM3 | 1000 | T | 12696.5 | R | T |

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|-------|-------|-------|------|-------|------|
| T0030 | 116.4 | U0030 | R01L | D0030 | CONL |
| T0032 | 116.4 | U0032 | R01L | D0032 | CONL |
| T0033 | 118.8 | U0001 | R02R | D0001 | CONR |
| T0035 | 118.8 | U0003 | R02R | D0003 | CONR |
| T0037 | 118.8 | U0005 | R02R | D0005 | CONR |
| T0039 | 118.8 | U0007 | R02R | D0007 | CONR |
| T0041 | 118.8 | U0009 | R02R | D0009 | CONR |
| T0043 | 118.8 | U0011 | R02R | D0011 | CONR |
| T0045 | 118.8 | U0013 | R02R | D0013 | CONR |
| T0047 | 118.8 | U0015 | R02R | D0015 | CONR |
| T0049 | 118.8 | U0017 | R02R | D0017 | CONR |
| T0051 | 118.8 | U0019 | R02R | D0019 | CONR |
| T0053 | 118.8 | U0021 | R02R | D0021 | CONR |
| T0055 | 118.8 | U0023 | R02R | D0023 | CONR |
| T0057 | 118.8 | U0025 | R02R | D0025 | CONR |
| T0059 | 118.8 | U0027 | R02R | D0027 | CONR |
| T0061 | 118.8 | U0029 | R02R | D0029 | CONR |
| T0063 | 118.8 | U0031 | R02R | D0031 | CONR |
| T0034 | 118.8 | U0002 | R02L | D0002 | CONL |
| T0036 | 118.8 | U0004 | R02L | D0004 | CONL |
| T0038 | 118.8 | U0006 | R02L | D0006 | CONL |
| T0040 | 118.8 | U0008 | R02L | D0008 | CONL |
| T0042 | 118.8 | U0010 | R02L | D0010 | CONL |
| T0044 | 118.8 | U0012 | R02L | D0012 | CONL |
| T0046 | 118.8 | U0014 | R02L | D0014 | CONL |
| T0048 | 118.8 | U0016 | R02L | D0016 | CONL |
| T0050 | 118.8 | U0018 | R02L | D0018 | CONL |
| T0052 | 118.8 | U0020 | R02L | D0020 | CONL |
| T0054 | 118.8 | U0022 | R02L | D0022 | CONL |
| T0056 | 118.8 | U0024 | R02L | D0024 | CONL |
| T0058 | 118.8 | U0026 | R02L | D0026 | CONL |
| T0060 | 118.8 | U0028 | R02L | D0028 | CONL |
| T0062 | 118.8 | U0030 | R02L | D0030 | CONL |
| T0064 | 118.8 | U0032 | R02L | D0032 | CONL |
| T0065 | 101.8 | U0001 | R01R | D0023 | SP23 |
| T0066 | 102.5 | U0002 | R01L | D0018 | SP50 |
| T0067 | 101.7 | U0003 | R01R | D0025 | SP23 |
| T0068 | 103.3 | U0004 | R01L | D0020 | SP50 |
| T0069 | 97.9 | U0005 | R01R | D0019 | SP68 |

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|------|------|---|----------|---|---|
| TLM4 | 1000 | T | 12697.5 | R | T |
| RFAT | 30 | R | 17799.75 | R | T |

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|-------|-------|-------|------|-------|------|
| T0070 | 105 | U0006 | R01L | D0020 | SP13 |
| T0071 | 97.9 | U0007 | R01R | D0021 | SP68 |
| T0072 | 105.5 | U0008 | R01L | D0024 | SP13 |
| T0073 | 103.8 | U0009 | R01R | D0023 | SP12 |
| T0074 | 105.4 | U0010 | R01L | D0026 | SP24 |
| T0075 | 103.7 | U0010 | R01L | D0026 | SP27 |
| T0076 | 104.1 | U0011 | R01R | D0025 | SP12 |
| T0077 | 102.7 | U0012 | R01L | D0028 | SP48 |
| T0078 | 101.8 | U0013 | R01R | D0027 | SP28 |
| T0079 | 101.5 | U0014 | R01L | D0030 | SP50 |
| T0080 | 101.7 | U0015 | R01R | D0029 | SP28 |
| T0081 | 105.8 | U0016 | R01L | D0032 | SP13 |
| T0082 | 104.3 | U0017 | R01R | D0031 | SP12 |
| T0083 | 102.2 | U0018 | R01L | D0018 | SP55 |
| T0084 | 101.9 | U0019 | R01R | D0019 | SP70 |
| T0085 | 102.8 | U0020 | R01L | D0020 | SP55 |
| T0086 | 102 | U0021 | R01R | D0021 | SP70 |
| T0087 | 102.9 | U0022 | R01L | D0022 | SP02 |
| T0088 | 102.1 | U0023 | R01R | D0023 | SP70 |
| T0089 | 101.2 | U0024 | R01L | D0024 | SP02 |
| T0090 | 102.2 | U0025 | R01R | D0025 | SP70 |
| T0091 | 104.6 | U0026 | R01L | D0026 | SP32 |
| T0092 | 102.2 | U0027 | R01R | D0027 | SP70 |
| T0093 | 105.2 | U0028 | R01L | D0028 | SP32 |
| T0094 | 104.7 | U0029 | R01R | D0029 | SP22 |
| T0095 | 102.8 | U0030 | R01L | D0030 | SP55 |
| T0096 | 104.3 | U0031 | R01R | D0031 | SP22 |
| T0097 | 104 | U0032 | R01L | D0032 | SP02 |
| T0098 | 106.7 | U0018 | R02L | D0018 | SP45 |
| T0099 | 108.3 | U0019 | R02R | D0019 | SP60 |
| T0100 | 108.3 | U0020 | R02L | D0020 | SP21 |
| T0101 | 108.1 | U0021 | R02R | D0021 | SP60 |
| T0102 | 108.3 | U0022 | R02L | D0022 | SP21 |
| T0103 | 106.6 | U0023 | R02R | D0023 | SP10 |
| T0104 | 108.3 | U0024 | R02L | D0024 | SP21 |
| T0105 | 107.5 | U0025 | R02R | D0025 | SP10 |
| T0106 | 108.3 | U0026 | R02L | D0026 | SP21 |
| T0107 | 103 | U0027 | R02R | D0027 | SP47 |
| T0108 | 108.3 | U0028 | R02L | D0028 | SP21 |

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|-------|-------|-------|------|-------|------|
| T0109 | 108.1 | U0029 | R02R | D0029 | SP26 |
| T0110 | 106.8 | U0030 | R02L | D0030 | SP45 |
| T0111 | 107.6 | U0031 | R02R | D0031 | SP10 |
| T0112 | 102.4 | U0032 | R02L | D0032 | SP01 |
| T0113 | 103 | U0001 | R03R | D0019 | SP54 |
| T0114 | 107.9 | U0002 | R03L | D0018 | SP63 |
| T0115 | 103.3 | U0003 | R03R | D0021 | SP54 |
| T0116 | 107.5 | U0004 | R03L | D0020 | SP63 |
| T0117 | 108.4 | U0005 | R03R | D0019 | SP61 |
| T0118 | 106 | U0006 | R03L | D0022 | SP08 |
| T0119 | 108.2 | U0007 | R03R | D0021 | SP61 |
| T0120 | 105.7 | U0008 | R03L | D0024 | SP08 |
| T0121 | 104.7 | U0009 | R03R | D0023 | SP06 |
| T0122 | 108.2 | U0010 | R03L | D0026 | SP34 |
| T0123 | 103.2 | U0011 | R03R | D0025 | SP06 |
| T0124 | 108.1 | U0012 | R03L | D0028 | SP34 |
| T0125 | 107.5 | U0013 | R03R | D0027 | SP31 |
| T0126 | 107.7 | U0014 | R03L | D0030 | SP63 |
| T0127 | 107.4 | U0015 | R03R | D0029 | SP31 |
| T0128 | 106.7 | U0016 | R03L | D0032 | SP08 |
| T0129 | 105 | U0017 | R03R | D0031 | SP06 |
| T0130 | 108.7 | U0018 | R03L | D0018 | SP57 |
| T0131 | 106.5 | U0019 | R03R | D0019 | SP58 |
| T0132 | 104.7 | U0020 | R03L | D0020 | SP44 |
| T0133 | 105.1 | U0020 | R03L | D0020 | SP46 |
| T0134 | 106.5 | U0021 | R03R | D0021 | SP58 |
| T0135 | 105.8 | U0022 | R03L | D0022 | SP11 |
| T0136 | 104.3 | U0023 | R03R | D0022 | SP18 |
| T0137 | 106.5 | U0024 | R03L | D0024 | SP11 |
| T0138 | 105 | U0025 | R03R | D0024 | SP18 |
| T0139 | 107.8 | U0026 | R03L | D0026 | SP41 |
| T0140 | 108.2 | U0027 | R03R | D0027 | SP35 |
| T0141 | 107.9 | U0028 | R03L | D0028 | SP41 |
| T0142 | 107.4 | U0029 | R03R | D0029 | SP35 |
| T0143 | 109.1 | U0030 | R03L | D0030 | SP57 |
| T0144 | 102.9 | U0031 | R03R | D0031 | SP49 |
| T0145 | 106 | U0032 | R03L | D0032 | SP11 |
| T0146 | 108.5 | U0001 | R04R | D0019 | SP59 |
| T0147 | 107.8 | U0002 | R04L | D0018 | SP56 |

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|-------|-------|-------|------|-------|------|
| T0148 | 108.3 | U0003 | R04R | D0021 | SP59 |
| T0149 | 108 | U0004 | R04L | D0020 | SP56 |
| T0150 | 107.7 | U0005 | R04R | D0019 | SP53 |
| T0151 | 108.1 | U0006 | R04L | D0022 | SP22 |
| T0152 | 108.6 | U0007 | R04R | D0021 | SP53 |
| T0153 | 107.7 | U0008 | R04L | D0024 | SP09 |
| T0154 | 105.8 | U0009 | R04R | D0023 | SP03 |
| T0155 | 108.9 | U0010 | R04L | D0026 | SP36 |
| T0156 | 105.3 | U0011 | R04R | D0025 | SP03 |
| T0157 | 108.9 | U0012 | R04L | D0028 | SP36 |
| T0158 | 109.7 | U0013 | R04R | D0027 | SP33 |
| T0159 | 107.6 | U0014 | R04L | D0030 | SP56 |
| T0160 | 109.2 | U0015 | R04R | D0029 | SP33 |
| T0161 | 109 | U0016 | R04L | D0032 | SP09 |
| T0162 | 105.3 | U0017 | R04R | D0031 | SP03 |
| T0163 | 106.5 | U0018 | R04L | D0018 | SP52 |
| T0164 | 106.1 | U0019 | R04R | D0019 | SP51 |
| T0165 | 106.4 | U0020 | R04L | D0020 | SP52 |
| T0166 | 105.4 | U0021 | R04R | D0021 | SP51 |
| T0167 | 108 | U0022 | R04L | D0022 | SP05 |
| T0168 | 108 | U0023 | R04R | D0023 | SP07 |
| T0169 | 108 | U0024 | R04L | D0024 | SP05 |
| T0170 | 108.2 | U0025 | R04R | D0025 | SP07 |
| T0171 | 107 | U0026 | R04L | D0026 | SP29 |
| T0172 | 107.8 | U0027 | R04R | D0027 | SP30 |
| T0173 | 105.2 | U0028 | R04L | D0028 | SP29 |
| T0174 | 107.7 | U0029 | R04R | D0029 | SP30 |
| T0175 | 106.5 | U0030 | R04L | D0030 | SP52 |
| T0176 | 108.3 | U0031 | R04R | D0031 | SP07 |
| T0177 | 108.4 | U0032 | R04L | D0032 | SP05 |
| T0178 | 107.1 | U0001 | R05R | D0023 | SP23 |
| T0179 | 107 | U0002 | R05L | D0018 | SP66 |
| T0180 | 107.1 | U0003 | R05R | D0025 | SP16 |
| T0181 | 107.9 | U0004 | R05L | D0020 | SP66 |
| T0182 | 106.5 | U0005 | R05R | D0019 | SP67 |
| T0183 | 106.7 | U0006 | R05L | D0022 | SP15 |
| T0184 | 107 | U0007 | R05R | D0021 | SP67 |
| T0185 | 105.8 | U0008 | R05L | D0024 | SP15 |
| T0186 | 107.2 | U0009 | R05R | D0023 | SP17 |

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|-------|-------|-------|------|-------|------|
| T0187 | 104.8 | U0010 | R05L | D0026 | SP37 |
| T0188 | 106.4 | U0011 | R05R | D0025 | SP17 |
| T0189 | 105.6 | U0012 | R05L | D0028 | SP37 |
| T0190 | 106.7 | U0013 | R05R | D0027 | SP38 |
| T0191 | 107.8 | U0014 | R05L | D0030 | SP66 |
| T0192 | 105.6 | U0015 | R05R | D0029 | SP38 |
| T0193 | 107 | U0016 | R05L | D0032 | SP15 |
| T0194 | 106.9 | U0017 | R05R | D0031 | SP17 |
| T0195 | 106.8 | U0017 | R05R | D0031 | SP67 |
| T0196 | 106.6 | U0018 | R05L | D0018 | SP62 |
| T0197 | 105.9 | U0019 | R05R | D0019 | SP64 |
| T0198 | 108.3 | U0020 | R05L | D0020 | SP62 |
| T0199 | 105.9 | U0021 | R05R | D0021 | SP64 |
| T0200 | 103.5 | U0022 | R05L | D0022 | SP04 |
| T0201 | 106.1 | U0023 | R05R | D0023 | SP14 |
| T0202 | 104.1 | U0024 | R05L | D0024 | SP04 |
| T0203 | 106.5 | U0025 | R05R | D0025 | SP14 |
| T0204 | 105.1 | U0026 | R05L | D0026 | SP42 |
| T0205 | 106.6 | U0027 | R05R | D0027 | SP39 |
| T0206 | 105.3 | U0028 | R05L | D0028 | SP40 |
| T0207 | 106.5 | U0029 | R05R | D0029 | SP39 |
| T0208 | 106.5 | U0030 | R05L | D0030 | SP62 |
| T0209 | 107.4 | U0031 | R05R | D0031 | SP14 |
| T0210 | 106.9 | U0032 | R05L | D0032 | SP04 |
| T0211 | 105.6 | U0001 | R06R | D0027 | SP43 |
| T0212 | 105.7 | U0003 | R06R | D0029 | SP43 |
| T0213 | 101.1 | U0005 | R06R | D0019 | SP20 |
| T0214 | 101.1 | U0005 | R06R | D0019 | SP71 |
| T0215 | 100.8 | U0007 | R06R | D0021 | SP20 |
| T0216 | 106.2 | U0007 | R06R | D0021 | SP71 |
| T0217 | 100.8 | U0009 | R06R | D0023 | SP20 |
| T0218 | 104.7 | U0009 | R06R | D0023 | SP25 |
| T0219 | 100.8 | U0011 | R06R | D0025 | SP20 |
| T0220 | 106.5 | U0011 | R06R | D0025 | SP25 |
| T0221 | 101 | U0013 | R06R | D0027 | SP20 |
| T0222 | 105.9 | U0013 | R06R | D0027 | SP71 |
| T0223 | 101.1 | U0015 | R06R | D0029 | SP20 |
| T0224 | 106.5 | U0015 | R06R | D0029 | SP71 |
| T0225 | 101 | U0017 | R06R | D0031 | SP20 |

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|-------|-------|-------|------|-------|-------|
| T0226 | 104 | U0017 | R06R | D0031 | SP25 |
| T0227 | 108.2 | U0018 | R06L | D0018 | SP65 |
| T0228 | 104 | U0020 | R06L | D0020 | SP69 |
| T0229 | 103.3 | U0022 | R06L | D0022 | SP69 |
| T0230 | 103.7 | U0024 | R06L | D0024 | SP69 |
| T0231 | 102.6 | U0026 | R06L | D0026 | SP19 |
| T0232 | 102.5 | U0028 | R06L | D0028 | SP19 |
| T0233 | 108 | U0030 | R06L | D0030 | SP65 |
| T0234 | 103.3 | U0032 | R06L | D0032 | SP69 |
| TC1 | | CMD1 | CMDL | | |
| TC2 | | CMD2 | CMDR | | |
| TC3 | | CMD1 | CMDL | | |
| TC4 | | CMD2 | CMDR | | |
| TM1 | | | | TLM1 | TLMR |
| TM2 | | | | TLM2 | TLMR |
| TM3 | | | | TLM3 | TLMR |
| TM4 | | | | TLM4 | TLMR |
| TM5 | | | | TLM1 | OMNDR |
| TM6 | | | | TLM2 | OMNDR |
| TM7 | | | | TLM3 | OMNDR |
| TM8 | | | | TLM4 | OMNDR |
| RFAT | | RFAT | RFTR | | |

FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
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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) |
|---------------------|-------------------------|------------------------------|-------------------|------------------------------|--------------------------------------|-------------------------------|--|-------------------------------------|
| D1 | 27M0G7W | 27000 | 4 | 35660 | 0.8008 | | 5.8 | 18 |
| D2 | 25M8G7W | 25800 | 8 | 41200 | 0.6406 | | 7.5 | 19.7 |

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

| Associated Transponder ID Range (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) (j) Min. (k) Max. | | EIRP (dBW) (l) Min. (m) Max. | | (n) Max. Power Flux Density (dBW/m ² /Hz) | (o) Assoc. Stn Rec. G/T (dB/K) |
| T0001 | T0064 | D1 | | 1 | | LB1.doc | | 65.8 | 1.2 | 18.2 | 49.1 | 57.8 | | 13.2 |
| T0001 | T0064 | D2 | | 1 | | LB2.doc | | 65.8 | 1.2 | 18.2 | 49.1 | 57.8 | | 13.2 |
| T0065 | T0234 | D1 | | 1 | | LB3.doc | | 65.8 | 1.2 | 18.2 | 46.1 | 61.1 | | 13.2 |
| T0065 | T0234 | D2 | | 1 | | LB4.doc | | 65.8 | 1.2 | 18.2 | 46.1 | 61.1 | | 13.2 |
| TC1 | TC2 | | A1 | 1 | | CMD1.doc | | 64 | 2.8 | 5.8 | | | | |
| TC3 | TC4 | | A1 | 1 | | CMD2.doc | | 64 | 16.2 | 29.2 | | | | |
| TM1 | TM4 | | A2 | 1 | | TLM1.doc | | | | | 10.2 | 14.2 | | |
| TM5 | TM8 | | A2 | 1 | | TLM2.doc | | | | | 7.4 | 16.9 | | |
| RFAT | RFAT | | A3 | 1 | | RFAT.doc | | 64 | -15 | -13 | | | | |

**FEDERAL COMMUNICATIONS COMMISSION
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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

Remote Control (TT C) Location(s):

| | | | |
|---|--------------------------|--|--------------------------|
| S14a: Street Address: 530 Echostar Drive | | | |
| S14b. City: Cheyenne | S14c. County: Laramie | S14d. State/Country WY | S14e. Zip Code: 82007 |
| S14f. Telephone Number: 307-633-5460 | | S14g. Call Sign of Control Station (if appropriate): | |

Remote Control (TT C) Location(s):

| | | | |
|---|---------------------------|--|--------------------------|
| S14a: Street Address: 801 North Dish Drive | | | |
| S14b. City: Gilbert | S14c. County: Maricopa | S14d. State/Country AZ | S14e. Zip Code: 85223 |
| S14f. Telephone Number: 480-558-2778 | | S14g. Call Sign of Control Station (if appropriate): | |

**FEDERAL COMMUNICATIONS COMMISSION
SATELLITE SPACE STATION AUTHORIZATIONS
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Page 11:
Characteristics and
Certifications

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

| | | |
|--|-----------------------------------|---|
| S15a. Mass of spacecraft without fuel (kg): 3228 | Spacecraft Dimensions (meters) | Probability of Survival to End of Life (0.0 - 1.0) |
| S15b. Mass of fuel and disposables at launch (kg): 3030 | | |
| S15c. Mass of spacecraft and fuel at launch (kg): 6258 | S15f. Length (m): 8.1 | S15i. Payload: 0.8075 |
| S15d. Mass of fuel, in orbit, at beginning of life (kg): 1050 | S15g. Width (m): 12 | S15j. Bus: 0.8585 |
| S15e. Deployed Area of Solar Array (square meters): 90 | S15h. Height (m): 32.4 | S15k. Total: 0.6932 |

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): 13543 | (f): 13543 | (k): 13543 | (p): 13543 |
| Bus (Watts): | (b): 3425 | (g): 1919 | (l): 3425 | (q): 1919 |
| Total (Watts): | (c): 16968 | (h): 15462 | (m): 16968 | (r): 15462 |
| Solar Array (Watts): | (d): 19336 | (i): 17457 | (n): 18822 | (s): 16993 |
| Depth of Battery Discharge (%): | (e) 75.7 % | (j) % | (o) 75.7 % | (t) % |

S17. CERTIFICATIONS:

| | | | |
|--|---|-----------------------------|---|
| a. Are the power flux density limits of § 25.208 met? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | <input checked="" 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.