

S1. GENERAL INFORMATION Complete for all satellite applications.

| | | | | | |
|---|--------------------------|--|--|--|--|
| a. Space Station or Satellite Network Name: EHOSTAR-15 | | e. Estimated Date of Placement into Service: | | i. Will the space station(s) operate on a Common Carrier Basis: N | |
| b. Construction Commencement Date: | | f. Estimated Lifetime of Satellite(s): 15 Years | | j. Number of transponders offered on a common carrier basis: | |
| c. Construction Completion Date: | | g. Total Number of Transponders: 32 | | k. Total Common Carrier Transponder Bandwidth: MHz | |
| d1. Est Launch Date Begin: | d2. Est Launch Date End: | h. Total Transponder Bandwidth (no. transponders x Bandwidth) 768 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) | | |
| 17300 | M | 17800 | M | R | Feeder Link for Broadcasting Satellite Service in FSS |
| 12200 | M | 12700 | M | T | Broadcasting Satellite Service - Video |

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

| | | | | | |
|---|--------------|--|--|--|--|
| a. Nominal Orbital Longitude (Degrees E/W): 45.1 W | | b. Alternate Orbital Longitude (Degrees E/W): | | c. Reason for orbital location selection: The satellite will operate under the authority of the Administration of Brazil. The 45.1 W.L. location is consistent with the Brazilian cluster of the ITU Region 2 BSS Plan. | |
| 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> Degrees </u> <u> E/W </u> | |
| 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 Gilbert, AZ |
| SA2 | S | | Brazil |
| SA3 | 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 | 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 | | | | |
|-------------------|--------------------|---------------------------|------------------|---------------------------------------|---|---|--|---|------------------------|-----------------------------|--------------------------------------|------------------------------|------------------------------------|---------------------------------------|--|-----------------------|---|
| | | | | | | | | | | (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 | | | | | | | | | | | | | | |
| AZU | R | 44.7 | 41.7 | 0.12 | | 30 | N | | SA1 | | | | 1919 | 11.9 | -99.5 | 21 | 1 |
| AZUL | R | 44.7 | 41.7 | 0.12 | | 30 | N | | SA1 | | | | 1919 | 11.9 | -99.5 | 21 | 1 |
| BED | T | 34.3 | 26.3 | 0.12 | | 30 | N | | SA2 | 2.8 | 236 | 58.1 | | | | | |
| BEDL | T | 34.3 | 26.3 | 0.12 | | 30 | N | | SA2 | 2.8 | 236 | 58.1 | | | | | |
| BWD | T | 34.3 | 26.3 | 0.12 | | 30 | N | | SA2 | 2.8 | 236 | 58.1 | | | | | |
| BWD | T | 34.3 | 26.3 | 0.12 | | 30 | N | | SA2 | 2.8 | 236 | 58.1 | | | | | |
| TCO | R | 44.7 | 41.7 | 0.12 | | 30 | N | | SA1 | | | | 32000 | -3.3 | | | |
| OMN | R | 9 | -4 | 0 | | 30 | N | | SA3 | | | | 5000 | -28 | | | |
| OMN | T | 9 | -4 | 0 | | 30 | N | | SA3 | 9.3 | 4.1 | 15.2 | | | | | |

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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) Beam ID | (b) T/R Mode | (c) Co-or Cross Polar Mode ("C" or" X") | (d) GSO Ref. Orbital Longitude (Deg. E/W) | (e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit) | (f) GSO Antenna Gain Contour Data (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 |
| AZU | R | C | -45.1 | | AZUR.gxt | | | | | |
| AZUL | R | C | -45.1 | | AZUL.gxt | | | | | |
| BED | T | C | -45.1 | | BEDR.gxt | | | | | |
| BEDL | T | C | -45.1 | | BEDL.gxt | | | | | |
| BWD | T | C | -45.1 | | BWDR.gxt | | | | | |
| BWD | T | C | -45.1 | | BWDL.gxt | | | | | |
| TCO | R | C | -45.1 | | TCOS.gxt | | | | | |

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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 | 24000 | R | 17324 | R | C |
| U0002 | 24000 | R | 17353.16 | R | C |
| U0003 | 24000 | R | 17382.32 | R | C |
| U0004 | 24000 | R | 17411.48 | R | C |
| U0005 | 24000 | R | 17440.64 | R | C |
| U0006 | 24000 | R | 17469.8 | R | C |
| U0007 | 24000 | R | 17498.96 | R | C |
| U0008 | 24000 | R | 17528.12 | R | C |
| U0009 | 24000 | R | 17557.28 | R | C |
| U0010 | 24000 | R | 17586.44 | R | C |
| U0011 | 24000 | R | 17615.6 | R | C |
| U0012 | 24000 | R | 17644.76 | R | C |
| U0013 | 24000 | R | 17673.92 | R | C |
| U0014 | 24000 | R | 17703.08 | R | C |
| U0015 | 24000 | R | 17732.24 | R | C |
| U0016 | 24000 | R | 17761.4 | R | C |
| U0017 | 24000 | R | 17338.58 | L | C |
| U0018 | 24000 | R | 17367.74 | L | C |
| U0019 | 24000 | R | 17396.9 | L | C |
| U0020 | 24000 | R | 17426.06 | L | C |
| U0021 | 24000 | R | 17455.22 | L | C |
| U0022 | 24000 | R | 17484.38 | L | C |
| U0023 | 24000 | R | 17513.54 | L | C |
| U0024 | 24000 | R | 17542.7 | L | C |
| U0025 | 24000 | R | 17571.86 | L | C |
| U0026 | 24000 | R | 17601.02 | L | C |
| U0027 | 24000 | R | 17630.18 | L | C |
| U0028 | 24000 | R | 17659.34 | L | C |
| U0029 | 24000 | R | 17688.5 | L | C |
| U0030 | 24000 | 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 | 125 | U0001 | AZUR | D0001 | BEDR |
| T0002 | 125 | U0003 | AZUR | D0003 | BEDR |
| T0003 | 125 | U0005 | AZUR | D0005 | BEDR |
| T0004 | 125 | U0007 | AZUR | D0007 | BEDR |
| T0005 | 125 | U0009 | AZUR | D0009 | BEDR |
| T0006 | 125 | U0011 | AZUR | D0011 | BEDR |
| T0007 | 125 | U0013 | AZUR | D0013 | BEDR |
| T0008 | 125 | U0015 | AZUR | D0015 | BEDR |
| T0009 | 125 | U0002 | AZUR | D0002 | BWDR |
| T0010 | 125 | U0004 | AZUR | D0004 | BWDR |
| T0011 | 125 | U0006 | AZUR | D0006 | BWDR |
| T0012 | 125 | U0008 | AZUR | D0008 | BWDR |
| T0013 | 125 | U0010 | AZUR | D0010 | BWDR |
| T0014 | 125 | U0012 | AZUR | D0012 | BWDR |
| T0015 | 125 | U0014 | AZUR | D0014 | BWDR |
| T0016 | 125 | U0016 | AZUR | D0016 | BWDR |
| T0017 | 125 | U0017 | AZUL | D0017 | BWDL |
| T0018 | 125 | U0019 | AZUL | D0019 | BWDL |
| T0019 | 125 | U0021 | AZUL | D0021 | BWDL |
| T0020 | 125 | U0023 | AZUL | D0023 | BWDL |
| T0021 | 125 | U0025 | AZUL | D0025 | BWDL |
| T0022 | 125 | U0027 | AZUL | D0027 | BWDL |
| T0023 | 125 | U0029 | AZUL | D0029 | BWDL |
| T0024 | 125 | U0031 | AZUL | D0031 | BWDL |
| T0025 | 125 | U0018 | AZUL | D0018 | BEDL |
| T0026 | 125 | U0020 | AZUL | D0020 | BEDL |
| T0027 | 125 | U0022 | AZUL | D0022 | BEDL |
| T0028 | 125 | U0024 | AZUL | D0024 | BEDL |
| T0029 | 125 | U0026 | AZUL | D0026 | BEDL |
| T0030 | 125 | U0028 | AZUL | D0028 | BEDL |

| | | | | | |
|-------|-------|---|----------|---|---|
| U0031 | 24000 | R | 17746.82 | L | C |
| U0032 | 24000 | R | 17775.98 | L | C |
| D0001 | 24000 | T | 12224 | R | C |
| D0002 | 24000 | T | 12253.16 | R | C |
| D0003 | 24000 | T | 12282.32 | R | C |
| D0004 | 24000 | T | 12311.48 | R | C |
| D0005 | 24000 | T | 12340.64 | R | C |
| D0006 | 24000 | T | 12369.8 | R | C |
| D0007 | 24000 | T | 12398.96 | R | C |
| D0008 | 24000 | T | 12428.12 | R | C |
| D0009 | 24000 | T | 12457.28 | R | C |
| D0010 | 24000 | T | 12486.44 | R | C |
| D0011 | 24000 | T | 12515.6 | R | C |
| D0012 | 24000 | T | 12544.76 | R | C |
| D0013 | 24000 | T | 12573.92 | R | C |
| D0014 | 24000 | T | 12603.08 | R | C |
| D0015 | 24000 | T | 12632.24 | R | C |
| D0016 | 24000 | T | 12661.4 | R | C |
| D0017 | 24000 | T | 12238.58 | L | C |
| D0018 | 24000 | T | 12267.74 | L | C |
| D0019 | 24000 | T | 12296.9 | L | C |
| D0020 | 24000 | T | 12326.06 | L | C |
| D0021 | 24000 | T | 12355.22 | L | C |
| D0022 | 24000 | T | 12384.38 | L | C |
| D0023 | 24000 | T | 12413.54 | L | C |
| D0024 | 24000 | T | 12442.7 | L | C |
| D0025 | 24000 | T | 12471.86 | L | C |
| D0026 | 24000 | T | 12501.02 | L | C |
| D0027 | 24000 | T | 12530.18 | L | C |
| D0028 | 24000 | T | 12559.34 | L | C |
| D0029 | 24000 | T | 12588.5 | L | C |
| D0030 | 24000 | T | 12617.66 | L | C |
| D0031 | 24000 | T | 12646.82 | L | C |
| D0032 | 24000 | T | 12675.98 | L | C |
| CMD1 | 1000 | R | 17791.5 | R | T |
| CMD2 | 1000 | R | 17793.5 | R | T |
| TLM1 | 1000 | T | 12692 | R | T |
| TLM2 | 1000 | T | 12693 | R | T |
| TLM3 | 1000 | T | 12694.5 | R | T |

| | | | | | |
|-------|-----|-------|-------|-------|-------|
| T0031 | 125 | U0030 | AZUL | D0030 | BEDL |
| T0032 | 125 | U0032 | AZUL | D0032 | BEDL |
| CMD1 | | CMD1 | AZUR | | |
| CMD2 | | CMD2 | AZUR | | |
| CMD3 | | CMD1 | OMNUR | | |
| CMD4 | | CMD2 | OMNUR | | |
| TLM1 | | | | TLM1 | OMNDR |
| TLM2 | | | | TLM2 | OMNDR |
| TLM3 | | | | TLM3 | OMNDR |
| TLM4 | | | | TLM4 | OMNDR |

| | | | | | |
|------|------|---|---------|---|---|
| TLM4 | 1000 | T | 12698.5 | R | T |
|------|------|---|---------|---|---|

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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 | 24M0G7W | 24000 | 4 | 31698 | 0.7925 | | 5.8 | 23 |
| D2 | 25M8G7W | 25800 | 8 | 41209 | 0.6389 | | 7.5 | 23 |

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S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

| (a) Analog Mod. ID | (b) Emission Designator | (c) Assigned Bandwidth (kHz) | (d) Signal Type | (e) Channels per Carrier | Multi-channel Telephony | | | | (j) Video Standard NTSC, PAL, etc. | (k) Video Noise- Weighting (dB) | (l) Video and SCPC/FM Modulation Index | (m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB) | (n) Total C/N Performance Objective (dB) | (o) Single Entry C/I Objective (dB) |
|--------------------------|----------------------------|---------------------------------------|--------------------|--------------------------------|---|---------------------------------------|------------------------------------|--------------------------------|---|--|--|--|---|--|
| | | | | | (f) Ave. Companded Talker Level (dBm0) | (g) Bottom Baseband Freq. (MHz) | (h) Top Baseband Freq. (MHz) | (i) RMS Modulation Index | | | | | | |
| A1 | 1M00F2D | 1000 | | 1 | | | | | | | | | 10 | 22.2 |
| A2 | 1M00G2D | 1000 | | 1 | | | | | | | | | 9 | 21.2 |

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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 | T0032 | D1 | | 1 | | LB1.doc | | 65.8 | 11.2 | 21.2 | 50.1 | 58.1 | | 15.7 |
| T0001 | T0032 | D2 | | 1 | | LB2.doc | | 65.8 | 11.2 | 21.2 | 50.1 | 58.1 | | 15.7 |
| CMD1 | CMD2 | | A1 | 1 | | TC1.docx | | 63.9 | -13.8 | 6.2 | | | | |
| CMD3 | CMD4 | | A1 | 1 | | TC2.docx | | 63.9 | 3.7 | 16.7 | | | | |
| TLM1 | TLM4 | | A2 | 1 | | TM1.docx | | | | | 2.2 | 15.2 | | 42.9 |

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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: 801 North Dish Drive | | | |
| S14b. City: Gilbert | S14c. County: Maricopa | S14d. State/Country AZ | S14e. Zip Code: 85233 |
| S14f. Telephone Number: 480-558-2778 | | S14g. Call Sign of Control Station (if appropriate): | |

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Characteristics and
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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

| | | |
|--|-----------------------------------|---|
| S15a. Mass of spacecraft without fuel (kg): 2479 | Spacecraft Dimensions (meters) | Probability of Survival to End of Life (0.0 - 1.0) |
| S15b. Mass of fuel and disposables at launch (kg): 3146 | | |
| S15c. Mass of spacecraft and fuel at launch (kg): 5619 | S15f. Length (m): 6.9 | S15i. Payload: 0.8377 |
| S15d. Mass of fuel, in orbit, at beginning of life (kg): 1030 | S15g. Width (m): 8 | S15j. Bus: 0.8635 |
| S15e. Deployed Area of Solar Array (square meters): 92 | S15h. Height (m): 32.5 | S15k. Total: 0.7234 |

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): 14102 | (f): 14102 | (k): 14102 | (p): 14102 |
| Bus (Watts): | (b): 3461 | (g): 1705 | (l): 3461 | (q): 1705 |
| Total (Watts): | (c): 17563 | (h): 15807 | (m): 17563 | (r): 15807 |
| Solar Array (Watts): | (d): 19493 | (i): 17522 | (n): 18478 | (s): 16610 |
| Depth of Battery Discharge (%): | (e) 76.5 % | (j) % | (o) 76.5 % | (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.