

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

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| a. Space Station or Satellite Network Name:<br>INMARSAT 4F2 |  | e. Estimated Date of Placement into Service:<br>12/31/2005               |  | i. Will the space station(s) operate on a Common Carrier Basis:<br>N   |  |
| b. Construction Commencement Date:<br>1/1/2001              |  | 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:<br>6/1/2005                |  | g. Total Number of Transponders:<br>1260                                 |  | k. Total Common Carrier Transponder Bandwidth:<br>0 MHz  |  |
| d1. Est Launch Date Begin:<br>10/1/2005                     | d2. Est Launch Date End:<br>10/31/2005 | h. Total Transponder Bandwidth (no. transponders x Bandwidth)<br>252 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) |             |   |
| 1525                  | M               | 1559                  | M               | R           | Mobile-Satellite Service                                  |
| 1626.5                | M               | 1660.5                | M               | T           | Mobile-Satellite Service                                  |
| 6425                  | M               | 6515.8                | M               | R           | Feeder Link for Mobile Satellite Service in FSS           |
| 3564.2                | M               | 3657.8                | M               | T           | Feeder Link for Mobile Satellite Service in FSS           |
| 6338                  | M               | 6342                  | M               | R           | Fixed Satellite Service                                   |
| 3945                  | M               | 3955                  | M               | T           | Fixed Satellite Service                                   |

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

|  |             |   |  |   |  |
|--|-------------|---|--|---|--|
| a. Nominal Orbital Longitude (Degrees E/W):<br>52.75 W |             | b. Alternate Orbital Longitude (Degrees E/W):                               |  | c. Reason for orbital location selection:<br><br>The Inmarsat 4F2 satellite will operate at the 52.75°W.L. geostationary orbital location. The Inmarsat 4F2 satellite will replace the Inmarsat 3 satellite, which currently operates at 54°W.L. and for which the Commission has already authorized the provision of service. This orbital location optimizes Atlantic Ocean coverage while complementing the coverage provided by the Inmarsat 4F1 satellite at 64° W |  |
| Longitudinal Tolerance or E/W Station-Keeping:         |             | f. Inclination Excursion or N/S Station-Keeping Tolerance:<br><br>3 Degrees | Range of orbital arc in which adequate service can be provided (Optional):<br><br>g. Westernmost:<br>h. Easternmost: |   |  |
| d. Toward West:  | 0.1 Degrees |   | Degrees      E/W   |   |  |
| e. Toward East:  | 0.1 Degrees |   |  |   |  |
| 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. |
|---------------------|---|---|---|
| GLOBAL              | S   |   | All visible areas of the Earth.   |

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

| (a)<br>Beam<br>ID | (b)<br>T/R<br>Mode | Isotropic Antenna<br>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) |                  |
|-------------------|--------------------|---------------------------|-------------------|---------------------------------------|---|---|--|---|------------------------|--------------------------------|--------------------------------------|------------------------------|------------------------------------|---------------------------------------|--|-----------------------|------------------|
|                   |                    |                           |                   |                                       |   |   |  |   |                        | (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 |
|                   |                    | (c) Peak<br>(dBi)         | (d) Edge<br>(dBi) |                                       |   |   |  |   |                        |                                |                                      |                              |                                    |                                       |  |                       |                  |
| CGU               | R                  | 22                        | 18                | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 |                                |                                      |                              | 692                                | -6.4                                  | -174.7   | 16                    | 1                |
| CGU               | R                  | 22                        | 18                | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 |                                |                                      |                              | 692                                | -6.4                                  | -174.7   | 16                    | 1                |
| CGD               | T                  | 22                        | 18                | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 | 3.4                            | 20.1                                 | 35                           |                                    |                                       |  |                       |                  |
| CGD               | T                  | 22                        | 18                | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 | 3.4                            | 20.1                                 | 35                           |                                    |                                       |  |                       |                  |
| LSU               | R                  | 42                        | 39                | 0.2                                   | 0.1                                     |   | N  |   | GLOBAL                 |                                |                                      |                              | 583                                | 14.3                                  | -188.8   | 16                    | 2                |
| LRU               | R                  | 34                        | 30                | 0.2                                   | 0.1                                     |   | N  |   | GLOBAL                 |                                |                                      |                              | 1259                               | 3                                     | -168.8   | 16                    | 2                |
| LSD               | T                  | 42                        | 39                | 0.2                                   | 0.1                                     |   | N  |   | GLOBAL                 | 4.1                            | 631                                  | 70                           |                                    |                                       |  |                       |                  |
| LRD               | T                  | 34                        | 30                | 0.2                                   | 0.1                                     |   | N  |   | GLOBAL                 | 4.1                            | 251.2                                | 58                           |                                    |                                       |  |                       |                  |
| LGD               | T                  | 22                        | 18                | 0.2                                   | 0.1                                     |   | N  |   | GLOBAL                 | 4.1                            | 125.9                                | 43                           |                                    |                                       |  |                       |                  |
| TCN               | R                  | 9                         | 1.5               | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 |                                |                                      |                              | 501                                | -18                                   | -175.1   |                       |                  |
| TCNL              | R                  | 9                         | 1.5               | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 |                                |                                      |                              | 501                                | -18                                   | -175.1   |                       |                  |
| CRD               | T                  | 22                        | 18                | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 | 3.5                            | 0.355                                | 17.5                         |                                    |                                       |  |                       |                  |
| CRD               | T                  | 22                        | 18                | 0.2                                   | 0.1                                     | 30  | N  |   | GLOBAL                 | 3.5                            | 0.355                                | 17.5                         |                                    |                                       |  |                       |                  |
| LGU               | R                  | 22                        | 18                | 0.2                                   | 0.1                                     |   | N  |   | GLOBAL                 |                                |                                      |                              | 632                                | -6                                    | -168.8   | 16                    | 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)<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 |
| CGU               | R                  | C   | -52.75  |   | CGUR.GXT   |  |            |            |            |            |
| CGU               | R                  | C   | -52.75  |   | CGUL.GXT   |  |            |            |            |            |
| CGD               | T                  | C   | -52.75  |   | CGDR.GXT   | -159.4   | -159.2     | -159       | -158.7     | -158.4     |
| CGD               | T                  | C   | -52.75  |   | CGDL.GXT   | -159.4   | -159.2     | -159       | -158.7     | -158.4     |
| LSU               | R                  | C   | -52.75  |   | LSU.GXT  |  |            |            |            |            |
| LRU               | R                  | C   | -52.75  |   | LRU.GXT  |  |            |            |            |            |
| LSD               | T                  | C   | -52.75  |   | LSD.GXT  |  |            |            |            |            |
| LRD               | T                  | C   | -52.75  |   | LRD.GXT  |  |            |            |            |            |
| LGD               | T                  | C   | -52.75  |   | LGD.GXT  |  |            |            |            |            |
| TCN               | R                  | C   | -52.75  |   | TCNR.GXT   |  |            |            |            |            |
| TCNL              | R                  | C   | -52.75  |   | TCNL.GXT   |  |            |            |            |            |
| CRD               | T                  | C   | -52.75  |   | CRDR.GXT   | -170.9   | -170.7     | -170.5     | -170.2     | -169.9     |
| CRD               | T                  | C   | -52.75  |   | CRDL.GXT   | -170.9   | -170.7     | -170.5     | -170.2     | -169.9     |
| LGU               | R                  | C   | -52.75  |   | LGU.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) |
|-----------------|------------------------------|--------------|----------------------------|-------------------------------|----------------------------------|
| CXU             | 90800                        | R            | 6470.4                     | R                             | C                                |
| CYU             | 90800                        | R            | 6470.4                     | L                             | C                                |
| CXD             | 106400                       | T            | 3604.6                     | R                             | C                                |
| CYD             | 106400                       | T            | 3604.6                     | L                             | C                                |
| LU              | 34000                        | R            | 1542                       | R                             | C                                |
| LD              | 34000                        | T            | 1643.5                     | R                             | C                                |
| TLCR            | 4000                         | R            | 6340                       | R                             | T                                |
| TLCL            | 4000                         | R            | 6340                       | L                             | T                                |
| TLMR            | 10000                        | T            | 3950                       | R                             | T                                |
| TLML            | 10000                        | T            | 3950                       | L                             | T                                |

| (a) Transponder ID | (b) Transponder Gain (dB) | Receive Band    |             | Transmit Band   |             |
|--------------------|---------------------------|-----------------|-------------|-----------------|-------------|
|                    |                           | (c) Channel No. | (d) Beam ID | (e) Channel No. | (f) Beam ID |
| FL1                | 192                       | CXU             | CGUR        | LD              | LSD         |
| FL2                | 192                       | CYU             | CGUL        | LD              | LSD         |
| FL3                | 176                       | CXU             | CGUR        | LD              | LRD         |
| FL4                | 176                       | CYU             | CGUL        | LD              | LRD         |
| FL5                | 176                       | CXU             | CGUR        | LD              | LGD         |
| FL6                | 176                       | CYU             | CGUL        | LD              | LGD         |
| RL1                | 192                       | LU              | LSU         | CXD             | CGDR        |
| RL2                | 192                       | LU              | LSU         | CYD             | CGDL        |
| RL3                | 176                       | LU              | LRU         | CXD             | CGDR        |
| RL4                | 176                       | LU              | LRU         | CYD             | CGDL        |
| RL5                | 176                       | LU              | LGU         | CXD             | CGDR        |
| RL6                | 176                       | LU              | LGU         | CYD             | CGDL        |
| TC1                |                           | TLCR            | TCNR        |                 |             |
| TC2                |                           | TLCL            | TCNL        |                 |             |
| TM1                |                           |                 |             | TLMR            | CRDR        |
| TM2                |                           |                 |             | TLML            | CRDL        |

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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) |
|---------------------|-------------------------|------------------------------|-------------------|------------------------------|--------------------------------------|-------------------------------|--|-------------------------------------|
| C1F2                | 200KD7W                 | 200                          | 16                | 492                          | 0.822                                |                               | 12.3                                     | 24.5                                |
| C2F2                | 200KD7W                 | 200                          | 16                | 464                          | 0.775                                |                               | 11.4                                     | 23.6                                |
| C3F2                | 200KD7W                 | 200                          | 16                | 384                          | 0.642                                |                               | 9.1                                      | 21.3                                |
| C1F3                | 50K0D7W                 | 50                           | 16                | 98                           | 0.766                                |                               | 11.4                                     | 23.6                                |
| C2F3                | 50K0D7W                 | 50                           | 16                | 90                           | 0.703                                |                               | 10.3                                     | 22.5                                |
| C3F3                | 50K0G7W                 | 50                           | 4                 | 49.2                         | 0.796                                |                               | 5.4                                      | 17.6                                |
| C1F4                | 12K5G7W                 | 12.5                         | 4                 | 12.2                         | 0.897                                |                               | 8.1                                      | 20.3                                |
| C2F4                | 12K5G7W                 | 12.5                         | 4                 | 12.2                         | 0.897                                |                               | 8.1                                      | 20.3                                |
| C3F4                | 12K5G7W                 | 12.5                         | 4                 | 12.2                         | 0.897                                |                               | 8.1                                      | 20.3                                |
| C1R3                | 50K0D7W                 | 50                           | 16                | 101.6                        | 0.852                                |                               | 12                                       | 24.2                                |
| C2R3                | 50K0G7W                 | 50                           | 4                 | 52.8                         | 0.87                                 |                               | 6.6                                      | 18.8                                |
| C3R3                | 25K0G7W                 | 25                           | 4                 | 20                           | 0.73                                 |                               | 4.4                                      | 16.6                                |
| C1RT                | 200KD7W                 | 200                          | 16                | 492.8                        | 0.852                                |                               | 12.7                                     | 24.9                                |
| C2RT                | 200KD7W                 | 200                          | 16                | 448                          | 0.775                                |                               | 10.8                                     | 23                                  |
| C3RT                | 200KG7W                 | 200                          | 4                 | 239.6                        | 0.83                                 |                               | 4.8                                      | 17                                  |
| 13                  | 20K0G1E                 | 20                           | 4                 | 12                           | 0.5                                  |                               | 5.1                                      | 17.3                                |
| 14                  | 100KG1X                 | 100                          | 4                 | 64                           | 0.5                                  |                               | 5  | 17.2                                |
| 15                  | 10K0G1X                 | 10                           | 2                 | 3                            | 0.5                                  |                               | 0.6                                      | 12.8                                |
| 16                  | 10K0G1W                 | 10                           | 4                 | 4                            | 0.5                                  |                               | 5  | 17.2                                |
| 17                  | 10K0G1X                 | 10                           | 2                 | 3                            | 0.5                                  |                               | 1.1                                      | 13.3                                |
| 18                  | 10K0G1X                 | 10                           | 2                 | 3                            | 0.5                                  |                               | 1.1                                      | 13.3                                |
| 19                  | 10K0G1X                 | 10                           | 2                 | 3                            | 0.5                                  |                               | 1.1                                      | 13.3                                |
| 20                  | 5K00G1D                 | 5                            | 2                 | 0.3                          | 0.5                                  |                               | 3.5                                      | 15.7                                |
| 21                  | 2K50F1D                 | 2.5                          | 2                 | 0.001                        | 0.242                                |                               | -10.9                                    | 1.3                                 |
| 22                  | 20K0G1E                 | 20                           | 4                 | 12                           | 0.5                                  |                               | 5.1                                      | 17.3                                |
| 23                  | 100KG1X                 | 100                          | 4                 | 64                           | 0.5                                  |                               | 5  | 17.2                                |
| 24                  | 20K0G1X                 | 20                           | 4                 | 12                           | 0.5                                  |                               | 4.4                                      | 16.6                                |
| 25                  | 10K0G1W                 | 10                           | 4                 | 4                            | 0.5                                  |                               | 5  | 17.2                                |
| 26                  | 20K0G1X                 | 20                           | 2                 | 1.5                          | 0.5                                  |                               | 1.7                                      | 13.9                                |
| 27                  | 20K0G1X                 | 20                           | 2                 | 1.5                          | 0.5                                  |                               | 1.2                                      | 13.4                                |
| 28                  | 5K00G1D                 | 5                            | 2                 | 0.3                          | 0.5                                  |                               | 3.5                                      | 15.7                                |

|    |         |     |    |       |       |    |       |      |
|----|---------|-----|----|-------|-------|----|-------|------|
| 29 | 2K50F1D | 2.5 | 2  | 0.064 | 0.5   |    | -3.7  | 8.5  |
| 30 | 20K0G1E | 20  | 4  | 12    | 0.5   |    | 5.1   | 17.3 |
| 31 | 100KG1X | 100 | 4  | 64    | 0.5   |    | 5     | 17.2 |
| 32 | 10K0G1W | 10  | 4  | 4     | 0.5   |    | 5     | 17.2 |
| 33 | 5K00G1E | 5   | 4  | 2.8   | 0.5   |    | 5.4   | 17.6 |
| 34 | 60K0D1W | 60  | 16 | 64    | 0.476 |    | 7.7   | 19.9 |
| 35 | 5K00G1W | 5   | 4  | 3.6   | 0.643 |    | 5.4   | 17.6 |
| 36 | 5K00G1D | 5   | 2  | 0.3   | 0.5   |    | 3.5   | 15.7 |
| 37 | 2K50F1D | 2.5 | 2  | 0.001 | 0.242 |    | -10.9 | 1.3  |
| 38 | 20K0G1E | 20  | 4  | 12    | 0.5   |    | 5.1   | 17.3 |
| 39 | 100KG1X | 100 | 4  | 64    | 0.5   |    | 5     | 17.2 |
| 40 | 10K0G1W | 10  | 4  | 4     | 0.5   |    | 5     | 17.2 |
| 41 | 5K00G1E | 5   | 4  | 2.8   | 0.5   |    | 5.4   | 17.6 |
| 42 | 60K0D1W | 60  | 16 | 64    | 0.476 |    | 7.7   | 19.9 |
| 43 | 5K00G1W | 5   | 4  | 3.6   | 0.643 |    | 5.4   | 17.6 |
| 44 | 5K00G1D | 5   | 2  | 0.3   | 0.5   |    | 3.5   | 15.7 |
| 45 | 2K50F1D | 2.5 | 2  | 0.064 | 0.5   |    | 2.3   | 14.5 |
| 46 | 30K0G1X | 30  | 2  | 1.46  | 0.5   | 9  | -6    | 6.2  |
| 47 | 30K0G1X | 30  | 4  | 0.585 | 0.5   | 16 | -10   | 2.2  |
| 48 | 160KG1E | 160 | 4  | 144   | 0.615 |    | 7.9   | 20.1 |
| 49 | 30K0G1X | 30  | 4  | 23.4  | 0.5   |    | 6.8   | 19   |
| 50 | 160KG1E | 160 | 4  | 144   | 0.615 |    | 7.9   | 20.1 |
| 51 | 30K0G1X | 30  | 4  | 23.4  | 0.5   |    | 6.8   | 19   |





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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) |          | EIRP (dBW)                         |          | (n) Max. Power Flux Density (dBW/m <sup>2</sup> /Hz) | (o) Assoc. Stn Rec. G/T (dB/K) |
|  |     |                         |                        |                              |                           |  |                                      |   | (j) Min.                            | (k) Max. | (l) Min.                           | (m) Max. |  |                                |
| FL5  | FL6 | 14                      |                        | 174                          | 100                       | FLG INM-B 100                          | 54                                   | -3.1                                    | 1.9                                 | 20.6     | 24.6                               |          | -4   |                                |
| FL5  | FL6 | 15                      |                        | 2089                         | 10                        | FLG INM-B 10                           | 54                                   | -13.9                                   | -8.9                                | 9.8      | 13.8                               |          | -4   |                                |
| FL5  | FL6 | 16                      |                        | 290                          | 10                        | FLG INM-M 10                           | 54                                   | -5.3                                    | -0.3                                | 18.4     | 22.4                               |          | -10  |                                |
| FL5  | FL6 | 17                      |                        | 479                          | 10                        | FLG INM-M 10                           | 54                                   | -7.5                                    | -2.5                                | 16.2     | 20.2                               |          | -10  |                                |
| FL5  | FL6 | 18                      |                        | 135                          | 10                        | FLG MINI-M 10                          | 54                                   | -2                                      | 3                                   | 21.7     | 25.7                               |          | -17  |                                |
| FL5  | FL6 | 19                      |                        | 135                          | 10                        | FLG M-4 10 kH                          | 54                                   | -2                                      | 3                                   | 21.7     | 25.7                               |          | -7   |                                |
| FL5  | FL6 | 20                      |                        | 207                          | 10                        | FLG INM-C.doc                          | 54                                   | -3.9                                    | 1.1                                 | 19.8     | 23.8                               |          | -23  |                                |
| FL5  | FL6 | 21                      |                        | 178                          | 5                         | FLG INM-D.doc                          | 54                                   | -4.6                                    | 0.4                                 | 20.5     | 24.5                               |          | -22.1  |                                |
| RL5  | RL6 | 22                      |                        | 368                          | 20                        | RLG INM-B 20                           | 21                                   | 5                                       | 12                                  | -8.4     | 2.6                                | -165.2   | 30.7   |                                |
| RL5  | RL6 | 23                      |                        | 174                          | 100                       | RLG INM-B 100                          | 21                                   | 8                                       | 12                                  | -1.4     | 6.6                                | -168.5   | 30.7   |                                |
| RL5  | RL6 | 24                      |                        | 2089                         | 20                        | RLG INM-B 20                           | 21                                   | 4.3                                     | 12                                  | -9.1     | 2.6                                | -165.2   | 30.7   |                                |
| RL5  | RL6 | 25                      |                        | 290                          | 10                        | RLG INM-M 10                           | 14                                   | 7                                       | 13                                  | -13.4    | -6.4                               | -169.4   | 30.7   |                                |
| RL5  | RL6 | 26                      |                        | 479                          | 20                        | RLG INM-M 20                           | 14                                   | 3                                       | 11                                  | -17.4    | -5.4                               | -167.2   | 30.7   |                                |
| RL5  | RL6 | 27                      |                        | 135                          | 20                        | RLG MINI-M 20                          | 10                                   | 3                                       | 7                                   | -21.4    | -13.4                              | -175.5   | 30.7   |                                |
| RL5  | RL6 | 28                      |                        | 207                          | 5                         | RLG INM-C.doc                          | 0                                    | 9.6                                     | 16                                  | -23      | -12.6                              | -174.7   | 30.7   |                                |
| RL5  | RL6 | 29                      |                        | 178                          | 2.5                       | RLG INM-D.doc                          | 3.5                                  | -4.9                                    | 5.5                                 | -30.2    | -18.8                              | -180.9   | 30.7   |                                |
| FL3  | FL4 | 30                      |                        | 6300                         | 20                        | FLR INM-B 20                           | 54                                   | -4.2                                    | 0.8                                 | 19.5     | 23.5                               |          | -4   |                                |
| FL3  | FL4 | 31                      |                        | 1260                         | 100                       | FLR INM-B 100                          | 54                                   | 0.8                                     | 5.8                                 | 24.5     | 28.5                               |          | -4   |                                |
| FL3  | FL4 | 32                      |                        | 4898                         | 10                        | FLR INM-M 10                           | 54                                   | -2.6                                    | 2.4                                 | 21.1     | 25.1                               |          | -12  |                                |
| FL3  | FL4 | 33                      |                        | 17341                        | 5                         | FLR MINI-M 5 k                         | 54                                   | -8.1                                    | -3.1                                | 15.6     | 19.6                               |          | -7   |                                |
| FL3  | FL4 | 34                      |                        | 830                          | 60                        | FLR M4 60 kHz                          | 54                                   | 5.1                                     | 10.1                                | 28.8     | 32.8                               |          | -7   |                                |
| FL3  | FL4 | 35                      |                        | 17378                        | 5                         | FLR M4 5 kHz.                          | 54                                   | -8.1                                    | -3.1                                | 15.6     | 19.6                               |          | -7   |                                |
| FL3  | FL4 | 35                      |                        | 6122                         | 5                         | FLR INM-C.doc                          | 54                                   | -3.6                                    | 1.4                                 | 20.1     | 24.1                               |          | -23  |                                |
| FL3  | FL4 | 37                      |                        | 5623                         | 5                         | FLR INM-D.doc                          | 54                                   | -4.6                                    | 0.4                                 | 20.5     | 24.5                               |          | -22.1  |                                |
| RL3  | RL4 | 38                      |                        | 6300                         | 20                        | RLR INM-B 20                           | 21                                   | -4.1                                    | 4                                   | -10.7    | 1.4                                | -166.4   | 30.7   |                                |
| RL3  | RL4 | 39                      |                        | 1260                         | 100                       | RLR INM-B 100                          | 21                                   | -1                                      | 4                                   | -3.6     | 5.4                                | -169.7   | 30.7   |                                |
| RL3  | RL4 | 40                      |                        | 5129                         | 10                        | RLR INM-M 10                           | 12                                   | 0                                       | 7                                   | -15.6    | -4.6                               | -167.6   | 30.7   |                                |
| RL3  | RL4 | 41                      |                        | 17341                        | 5                         | RLR MINI-M 5                           | 18                                   | -7.3                                    | -1                                  | -16.9    | -6.6                               | -168.1   | 30.7   |                                |
| RL3  | RL4 | 42                      |                        | 830                          | 60                        | RLR M4 60 kHz                          | 18                                   | 6.2                                     | 7                                   | -3.4     | 1.4                                | -170.7   | 30.7   |                                |

|     |     |      |  |       |     |               |  |     |      |      |       |       |        |       |
|-----|-----|------|--|-------|-----|---------------|--|-----|------|------|-------|-------|--------|-------|
| RL3 | RL4 | 43   |  | 17378 | 5   | RLR M4 5 kHz. |  | 18  | -7.3 | -1   | -16.9 | -6.6  | -168.1 | 30.7  |
| RL3 | RL4 | 44   |  | 6122  | 5   | RLR INM-C.doc |  | 0   | 0.4  | 7    | -25.4 | -14.8 | -176.9 | 30.7  |
| RL3 | RL4 | 45   |  | 5623  | 2.5 | RLR INM-D.doc |  | 3.5 | -6.5 | -3.5 | -25   | -18   | -180.1 | 30.7  |
| FL1 | FL2 | C1F2 |  | 630   | 200 | C1F2 LB.doc   |  | 57  | -4.7 | 0.3  | 41.5  | 44.5  |        | -9.7  |
| FL1 | FL2 | C2F2 |  | 630   | 200 | C2F2 LB.doc   |  | 57  | -4.7 | 0.3  | 41.5  | 44.5  |        | -12.5 |
| FL1 | FL2 | C3F2 |  | 630   | 200 | C3F2 LB.doc   |  | 57  | -4.7 | 0.3  | 41.5  | 44.5  |        | -16.9 |
| FL3 | FL4 | C1F3 |  | 2520  | 50  | C1F3 LB.doc   |  | 57  | -1   | 4    | 29.2  | 33.2  |        | -9.7  |
| FL3 | FL4 | C2F3 |  | 2520  | 50  | C2F3 LB.doc   |  | 57  | -1   | 4    | 29.2  | 33.2  |        | -12.5 |
| FL3 | FL4 | C3F3 |  | 2520  | 50  | C3F3 LB.doc   |  | 57  | -1   | 4    | 29.2  | 33.2  |        | -16.9 |
| FL5 | FL6 | C1F4 |  | 1     |     | C1F4 LB.doc   |  | 57  | -1.7 | 3.3  | 29    | 33    |        | -9.7  |
| FL5 | FL6 | C2F4 |  | 1     |     | C2F4 LB.doc   |  | 57  | -1.7 | 3.3  | 29    | 33    |        | -12.5 |
| FL5 | FL6 | C3F4 |  | 1     |     | C3F4 LB.doc   |  | 57  | -1.7 | 3.3  | 29    | 33    |        | -16.9 |
| RL1 | RL2 | C1R3 |  | 2520  | 50  | C1R3 LB.doc   |  | 16  | 2    | 5    | -0.5  | 6.5   | -165.8 | 32.3  |
| RL1 | RL2 | C2R3 |  | 2520  | 50  | C2R3 LB.doc   |  | 13  | 0.1  | 3.1  | -6.5  | 1.6   | -170.7 | 32.3  |
| RL1 | RL2 | C3R3 |  | 5040  | 25  | C3R3 LB.doc   |  | 8   | 0    | 3    | -11.7 | -3.5  | -172.8 | 32.3  |
| RL3 | RL4 | C1RT |  | 630   | 200 | C1RT LB.doc   |  | 16  | 2    | 5    | 5     | 14.5  | -164.3 | 32.3  |
| RL3 | RL4 | C2RT |  | 630   | 200 | C2RT LB.doc   |  | 13  | 0.1  | 3.1  | 5     | 9.6   | -169.2 | 32.3  |
| RL3 | RL4 | C3RT |  | 630   | 200 | C3RT LB.doc   |  | 8   | 0    | 3    | -2    | 4.5   | -174.3 | 32.3  |
| FL5 | FL6 | 13   |  | 368   | 20  | FLG INM-B 20  |  | 54  | -6.4 | -1.4 | 17.3  | 21.3  |        | -4    |
| FL5 | FL6 | 46   |  | 229   | 30  | FLG RBGAN.d   |  | 57  | -7.2 | -2.2 | 19.4  | 23.4  |        | -16.7 |
| RL5 | RL6 | 47   |  | 630   | 30  | RLG RBGAN.d   |  | 12  | -2.2 | 1.8  | -24.5 | -15.5 | -186.2 | 32.3  |
| FL1 | FL2 | 48   |  | 630   | 200 | FLS RBGAN 16  |  | 57  | -3.2 | 1.8  | 43.4  | 46.4  |        | -16.7 |
| FL1 | FL2 | 49   |  | 630   | 200 | FLS RBGAN 30  |  | 57  | -8.2 | -3.2 | 38.4  | 41.4  |        | -16.7 |
| RL1 | RL2 | 50   |  | 630   | 200 | RLS RBGAN 1   |  | 12  | -0.3 | 2.7  | 10.5  | 15.5  | -162.5 | 32.3  |
| RL1 | RL2 | 51   |  | 630   | 200 | RLS RBGAN 3   |  | 12  | -0.3 | 2.7  | 4.2   | 15.5  | -155.2 | 32.3  |

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

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:<br>c/o Telespazio, Stazione del Fucino P.Fanti |                           |  |                          |
| S14b. City:<br>ORTUCCHIO   | S14c. County:<br>L'AQUILA | S14d. State/Country                                  | S14e. Zip Code:<br>67050 |
| S14f. Telephone Number:<br>+39 0863 5501                             |                           | S14g. Call Sign of Control Station (if appropriate): |                          |

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

Page 11:  
Characteristics and  
Certifications

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

|   |                                   |   |
|---|-----------------------------------|---|
| S15a. Mass of spacecraft without fuel (kg):<br>3340             | 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>2619      |                                   |   |
| S15c. Mass of spacecraft and fuel at launch (kg):<br>5959       | S15f. Length (m):<br>18           | S15i. Payload:<br>0.74                                |
| S15d. Mass of fuel, in orbit, at beginning of life (kg):<br>350 | S15g. Width (m):<br>45            | S15j. Bus:<br>0.89                                    |
| S15e. Deployed Area of Solar Array (square meters):<br>89.3     | S15h. Height (m):<br>8            | S15k. Total:<br>0.66                                  |

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): 8981                                     | (f): 8981   | (k): 8981                               | (p): 8981   |
| Bus (Watts):                    | (b): 840                                      | (g): 596    | (l): 840                                | (q): 596    |
| Total (Watts):                  | (c): 11635                                    | (h): 10423  | (m): 11696                              | (r): 10423  |
| Solar Array (Watts):            | (d): 14086                                    | (i): 13208  | (n): 13388                              | (s): 12038  |
| Depth of Battery Discharge (%): | (e) 68 %                                      | (j) 0 %     | (o) 72 %                                | (t) 12 %    |

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.**