



312 File Number: **SATAMD2022080500078**

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## Filing Description

| Question    | Response                                                          |
|-------------|-------------------------------------------------------------------|
| Description | Gen-2 (Global) satellite network REVISED to add Gen-3 satellites. |

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Satellite  
Information

| Question                                                     | Response                     |
|--------------------------------------------------------------|------------------------------|
| Select Orbit Type                                            | NGSO                         |
| Space Station or Satellite Network Name                      | BlackSky Gen-3 Constellation |
| Estimated Lifetime of Satellite(s) From Date of Launch       | 5 Years                      |
| Will the space station(s) operate on a Common Carrier basis? | No                           |

**Operating  
Frequency  
Bands (8)**

| Nature of service                        | Description             | Frequency Band (s)     | Mode Type |
|------------------------------------------|-------------------------|------------------------|-----------|
| Earth Exploration-Satellite Service      |                         | 2200.0 MHz -2290.0 MHz | Transmit  |
| Other Satellite Service (please specify) | Inter-satellite service | 1525.0 MHz -1559.0 MHz | Receive   |
| Other Satellite Service (please specify) | Inter-satellite service | 1626.5 MHz -1660.0 MHz | Transmit  |
| Space Operation Service                  |                         | 449.75 MHz -450.25 MHz | Receive   |
| Space Operation Service                  |                         | 400.0 MHz -401.0 MHz   | Transmit  |
| Space Operation Service                  |                         | 401.0 MHz -402.0 MHz   | Transmit  |
| Earth Exploration-Satellite Service      |                         | 2025.0 MHz -2110.0 MHz | Receive   |
| Earth Exploration-Satellite Service      |                         | 8025.0 MHz -8400.0 MHz | Transmit  |

**Orbital  
Information For  
Non-  
Geostationary  
Satellites**

| Question                                               | Response   |
|--------------------------------------------------------|------------|
| Total Number of Satellites in the active constellation | 30         |
| Orbit Epoch Date                                       | 01/01/2023 |
| Celestial Reference Body                               | Earth      |

## Orbital Plane 1:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 57.5 degrees   |
| Right Ascension of Ascending Node                             | 0.0 degrees    |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -57.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 57.5 degrees   |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 180.0                                          |
| 2                | 0.0                                            |

## Orbital Plane 2:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 57.5 degrees   |
| Right Ascension of Ascending Node                             | 60.0 degrees   |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -57.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 57.5 degrees   |

Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 210.0                                          |
| 2                | 30.0                                           |

Orbital Plane 3:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 57.5 degrees   |
| Right Ascension of Ascending Node                             | 120.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -57.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 57.5 degrees   |

Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 240.0                                          |
| 2                | 60.0                                           |

Orbital Plane 4:

| Question                          | Response      |
|-----------------------------------|---------------|
| Number of Satellites in Plane     | 2             |
| Inclination Angle                 | 57.5 degrees  |
| Right Ascension of Ascending Node | 180.0 degrees |

|                                                               |                |
|---------------------------------------------------------------|----------------|
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -57.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 57.5 degrees   |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 270.0                                          |
| 2                | 90.0                                           |

## Orbital Plane 5:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 57.5 degrees   |
| Right Ascension of Ascending Node                             | 240.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -57.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 57.5 degrees   |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 300.0                                          |

|   |       |
|---|-------|
| 2 | 120.0 |
|---|-------|

## Orbital Plane 6:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 57.5 degrees   |
| Right Ascension of Ascending Node                             | 300.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -57.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 57.5 degrees   |

## Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 330.0                                          |
| 2                | 150.0                                          |

## Orbital Plane 7:

| Question                          | Response       |
|-----------------------------------|----------------|
| Number of Satellites in Plane     | 2              |
| Inclination Angle                 | 39.5 degrees   |
| Right Ascension of Ascending Node | 15.0 degrees   |
| Argument of Perigee               | 0.0 degrees    |
| Orbital Period                    | 5615.0 seconds |
| Apogee                            | 450.0 km       |
| Perigee                           | 450.0 km       |

|                                                               |               |
|---------------------------------------------------------------|---------------|
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees  |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 180.0                                          |
| 2                | 0.0                                            |

### Orbital Plane 8:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 55.0 degrees   |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 200.0                                          |
| 2                | 20.0                                           |

### Orbital Plane 9:

| Question                      | Response |
|-------------------------------|----------|
| Number of Satellites in Plane | 2        |

|                                                               |                |
|---------------------------------------------------------------|----------------|
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 95.0 degrees   |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

**Mean Anomaly For Each Satellite**

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 220.0                                          |
| 2                | 40.0                                           |

**Orbital Plane 10:**

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 135.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

**Mean Anomaly For Each Satellite**

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 240.0                                          |
| 2                | 60.0                                           |

**Orbital Plane 11:**

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 175.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

**Mean Anomaly For Each Satellite**

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 260.0                                          |
| 2                | 80.0                                           |

**Orbital Plane 12:**

| Question                          | Response       |
|-----------------------------------|----------------|
| Number of Satellites in Plane     | 2              |
| Inclination Angle                 | 39.5 degrees   |
| Right Ascension of Ascending Node | 215.0 degrees  |
| Argument of Perigee               | 0.0 degrees    |
| Orbital Period                    | 5615.0 seconds |

|                                                               |               |
|---------------------------------------------------------------|---------------|
| Apogee                                                        | 450.0 km      |
| Perigee                                                       | 450.0 km      |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees  |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 280.0                                          |
| 2                | 100.0                                          |

## Orbital Plane 13:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 255.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 300.0                                          |
| 2                | 120.0                                          |

## Orbital Plane 14:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 295.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

### Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 320.0                                          |
| 2                | 140.0                                          |

### Orbital Plane 15:

| Question                                                      | Response       |
|---------------------------------------------------------------|----------------|
| Number of Satellites in Plane                                 | 2              |
| Inclination Angle                                             | 39.5 degrees   |
| Right Ascension of Ascending Node                             | 335.0 degrees  |
| Argument of Perigee                                           | 0.0 degrees    |
| Orbital Period                                                | 5615.0 seconds |
| Apogee                                                        | 450.0 km       |
| Perigee                                                       | 450.0 km       |
| Active Service Arc Begin Angle with respect to Ascending Node | -39.5 degrees  |
| Active Service Arc End Angle with respect to Ascending Node   | 39.5 degrees   |

Mean Anomaly For Each Satellite

| Satellite Number | Mean Anomaly (degrees) at the Orbit Epoch Date |
|------------------|------------------------------------------------|
| 1                | 340.0                                          |
| 2                | 160.0                                          |

## Receiving Beams 1:

| Question                                                | Response                   |
|---------------------------------------------------------|----------------------------|
| Beam ID                                                 | SR                         |
| Receive Beam Frequency                                  | 2071.775 MHz -2071.995 MHz |
| Beam Type                                               | Steerable                  |
| Polarization                                            | RHCP                       |
| Peak Gain                                               | 6.0 dBi                    |
| Antenna Pointing Error                                  | 2.0 degrees                |
| Antenna Rotational Error                                | 0.5 degrees                |
| Polarization Switchable                                 |                            |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees               |
| G/T at Max. Gain Point                                  | -26.5 dB/K                 |
| Min. Saturation Flux Density                            | -42.3 dBW/m2               |
| Max. Saturation Flux Density                            | -24.3 dBW/m2               |
| Co- or Cross Polar Mode                                 | C                          |
| Service Area Description                                | Visible Earth              |

## Receiving Beams 2:

| Question                 | Response                 |
|--------------------------|--------------------------|
| Beam ID                  | UR                       |
| Receive Beam Frequency   | 450.185 MHz -450.215 MHz |
| Beam Type                | Steerable                |
| Polarization             | H                        |
| Peak Gain                | 4.4 dBi                  |
| Antenna Pointing Error   | 2.0 degrees              |
| Antenna Rotational Error | 2.0 degrees              |

|                                                         |               |
|---------------------------------------------------------|---------------|
| Polarization Switchable                                 |               |
| Polarization Alignment Relative to the Equatorial Plane | 0.0 degrees   |
| G/T at Max. Gain Point                                  | -50.9 dB/K    |
| Min. Saturation Flux Density                            | -58.9 dBW/m2  |
| Max. Saturation Flux Density                            | -42.6 dBW/m2  |
| Co- or Cross Polar Mode                                 | C             |
| Service Area Description                                | Visible Earth |

## Receiving Beams 3:

| Question                                                | Response                                              |
|---------------------------------------------------------|-------------------------------------------------------|
| Beam ID                                                 | LR                                                    |
| Receive Beam Frequency                                  | 1525.0 MHz -1559.0 MHz                                |
| Beam Type                                               | Steerable                                             |
| Polarization                                            | RHCP                                                  |
| Peak Gain                                               | 10.0 dBi                                              |
| Antenna Pointing Error                                  | 2.0 degrees                                           |
| Antenna Rotational Error                                | 0.5 degrees                                           |
| Polarization Switchable                                 |                                                       |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees                                          |
| G/T at Max. Gain Point                                  | -17.8 dB/K                                            |
| Min. Saturation Flux Density                            | -69.5 dBW/m2                                          |
| Max. Saturation Flux Density                            | -49.5 dBW/m2                                          |
| Co- or Cross Polar Mode                                 | C                                                     |
| Service Area Description                                | Visible Earth (Inmarsat-4 GEO constellation coverage) |

Receiving  
Channels (3)

| Channel ID | Channel Bandwidth (MHz) | Center Frequency s (MHz) | Feeder Link, Service Link or TT&C |
|------------|-------------------------|--------------------------|-----------------------------------|
| SR1        | 0.2                     | 2071.875                 | TT&C                              |
| LR1        | 34.0                    | 1542.0                   | TT&C                              |
| UR1        | 0.03                    | 450.2                    | TT&C                              |

**Transmitting  
Beams 1:**

| Question                                                | Response               |
|---------------------------------------------------------|------------------------|
| Beam ID                                                 | XTNH                   |
| Transmit Beam Frequency                                 | 8035.0 MHz -8365.0 MHz |
| Beam Type                                               | Steerable              |
| Polarization                                            | RHCP                   |
| Peak Gain                                               | 17.75 dBi              |
| Antenna Pointing Error                                  | 2.0 degrees            |
| Antenna Rotational Error                                | 0.5 degrees            |
| Polarization Switchable                                 |                        |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees           |
| Max. Transmit EIRP Density                              | -56.4 dBW/Hz           |
| Max. Transmit EIRP                                      | 25.25 dBW              |
| Co- or Cross Polar Mode                                 | C                      |
| Service Area Description                                | Visible earth          |

**Max. Power Flux Density**

|                             | * 0° - 5°                 | * 5° - 10°                | * 10° - 15°               | * 15° - 20°               | * 20° - 25°               | * 25° - 90°               |
|-----------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| * (dBW/m <sup>2</sup> /BW): | (dBW/m <sup>2</sup> /BW): | (dBW/m <sup>2</sup> /BW): | (dBW/m <sup>2</sup> /BW): | (dBW/m <sup>2</sup> /BW): | (dBW/m <sup>2</sup> /BW): | (dBW/m <sup>2</sup> /BW): |
| 4.0 kHz                     | -156.3                    | -154.3                    | -152.5                    | -150.9                    | -149.6                    | -143.1                    |

**Transmitting  
Beams 2:**

| Question                | Response               |
|-------------------------|------------------------|
| Beam ID                 | XTAH                   |
| Transmit Beam Frequency | 8035.0 MHz -8365.0 MHz |

|                                                         |               |
|---------------------------------------------------------|---------------|
| Beam Type                                               | Steerable     |
| Polarization                                            | RHCP          |
| Peak Gain                                               | 10.0 dBi      |
| Antenna Pointing Error                                  | 2.0 degrees   |
| Antenna Rotational Error                                | 0.5 degrees   |
| Polarization Switchable                                 |               |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees  |
| Max. Transmit EIRP Density                              | -64.1 dBW/Hz  |
| Max. Transmit EIRP                                      | 17.5 dBW      |
| Co- or Cross Polar Mode                                 | C             |
| Service Area Description                                | Visible earth |

**Max. Power Flux Density**

|         | * 0° - 5°           | * 5° - 10°          | * 10° - 15°         | * 15° - 20°         | * 20° - 25°         | * 25° - 90°         |
|---------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|         | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> |
| * BW:   | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               |
| 4.0 kHz | -164.0              | -162.0              | -160.3              | -158.7              | -157.3              | -150.8              |

**Transmitting Beams 3:**

| Question                 | Response               |
|--------------------------|------------------------|
| Beam ID                  | LT                     |
| Transmit Beam Frequency  | 1626.5 MHz -1660.0 MHz |
| Beam Type                | Steerable              |
| Polarization             | RHCP                   |
| Peak Gain                | 10.0 dBi               |
| Antenna Pointing Error   | 2.0 degrees            |
| Antenna Rotational Error | 0.5 degrees            |

|                                                               |                                                                                                                |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Polarization Switchable                                       |                                                                                                                |
| Polarization Alignment<br>Relative to the Equatorial<br>Plane | 45.0 degrees                                                                                                   |
| Max. Transmit EIRP<br>Density                                 | -29.3 dBW/Hz                                                                                                   |
| Max. Transmit EIRP                                            | 10.0 dBW                                                                                                       |
| Co- or Cross Polar Mode                                       | C                                                                                                              |
| Service Area Description                                      | Global (terminal is not intended to communicate to terrestrial stations - only w/ Inmarsat satellites at GEO). |

### Max. Power Flux Density

|            | * 0° - 5°           | * 5° - 10°          | * 10° - 15°         | * 15° - 20°         | * 20° - 25°         | * 25° - 90°         |
|------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|            | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> |
| *<br>BW:   | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               |
| 4.0<br>kHz | -129.1              | -127.1              | -125.4              | -123.8              | -122.4              | -115.9              |

### Transmitting Beams 4:

| Question                                                   | Response               |
|------------------------------------------------------------|------------------------|
| Beam ID                                                    | UT1                    |
| Transmit Beam Frequency                                    | 400.65 MHz -400.96 MHz |
| Beam Type                                                  | Steerable              |
| Polarization                                               | H                      |
| Peak Gain                                                  | 4.1 dBi                |
| Antenna Pointing Error                                     | 2.0 degrees            |
| Antenna Rotational Error                                   | 2.0 degrees            |
| Polarization Switchable                                    |                        |
| Polarization Alignment Relative to the Equatorial<br>Plane | 0.0 degrees            |

|                            |               |
|----------------------------|---------------|
| Max. Transmit EIRP Density | -32.3 dBW/Hz  |
| Max. Transmit EIRP         | 6.7 dBW       |
| Co- or Cross Polar Mode    | C             |
| Service Area Description   | Visible earth |

### Max. Power Flux Density

|                | * 0° - 5°           | * 5° - 10°          | * 10° - 15°         | * 15° - 20°         | * 20° - 25°         | * 25° - 90°         |
|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> |
| * BW:          | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               |
| <b>4.0 kHz</b> | -132.2              | -130.2              | -128.4              | -126.8              | -125.5              | -119.0              |

### Transmitting Beams 5:

| Question                                                | Response               |
|---------------------------------------------------------|------------------------|
| Beam ID                                                 | UT2                    |
| Transmit Beam Frequency                                 | 401.0 MHz -401.515 MHz |
| Beam Type                                               | Steerable              |
| Polarization                                            | H                      |
| Peak Gain                                               | 4.1 dBi                |
| Antenna Pointing Error                                  | 2.0 degrees            |
| Antenna Rotational Error                                | 2.0 degrees            |
| Polarization Switchable                                 |                        |
| Polarization Alignment Relative to the Equatorial Plane | 0.0 degrees            |
| Max. Transmit EIRP Density                              | -32.3 dBW/Hz           |
| Max. Transmit EIRP                                      | 6.7 dBW                |
| Co- or Cross Polar Mode                                 | C                      |
| Service Area Description                                | Visible earth          |

Max. Power Flux Density

|         | * 0° - 5°           | * 5° - 10°          | * 10° - 15°         | * 15° - 20°         | * 20° - 25°         | * 25° - 90°         |
|---------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|         | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> |
| * BW:   | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               |
| 4.0 kHz | -132.2              | -130.2              | -128.4              | -126.8              | -125.5              | -119.0              |

Transmitting Beams 6:

| Question                                                | Response                                  |
|---------------------------------------------------------|-------------------------------------------|
| Beam ID                                                 | ST                                        |
| Transmit Beam Frequency                                 | 2248.77 MHz -2258.23 MHz                  |
| Beam Type                                               | Steerable                                 |
| Polarization                                            | RHCP                                      |
| Peak Gain                                               | 6.0 dBi                                   |
| Antenna Pointing Error                                  | 2.0 degrees                               |
| Antenna Rotational Error                                | 0.5 degrees                               |
| Polarization Switchable                                 |                                           |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees                              |
| Max. Transmit EIRP Density                              | -48.9 dBW/Hz                              |
| Max. Transmit EIRP                                      | 4.1 dBW                                   |
| Co- or Cross Polar Mode                                 | C                                         |
| Service Area Description                                | Visible earth - EXCEPT U.S. & Possessions |

Max. Power Flux Density

|       | * 0° - 5°           | * 5° - 10°          | * 10° - 15°         | * 15° - 20°         | * 20° - 25°         | * 25° - 90°         |
|-------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|       | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> | (dbW/m <sup>2</sup> |
| * BW: | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               |

|                    |        |        |        |        |        |        |
|--------------------|--------|--------|--------|--------|--------|--------|
| <b>4.0<br/>kHz</b> | -148.8 | -146.8 | -145.0 | -143.5 | -142.1 | -135.6 |
|--------------------|--------|--------|--------|--------|--------|--------|

**Transmitting  
Beams 7:**

| Question                                                | Response               |
|---------------------------------------------------------|------------------------|
| Beam ID                                                 | XTNL                   |
| Transmit Beam Frequency                                 | 8117.5 MHz -8282.5 MHz |
| Beam Type                                               | Steerable              |
| Polarization                                            | RHCP                   |
| Peak Gain                                               | 17.75 dBi              |
| Antenna Pointing Error                                  | 2.0 degrees            |
| Antenna Rotational Error                                | 0.5 degrees            |
| Polarization Switchable                                 |                        |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees           |
| Max. Transmit EIRP Density                              | -53.4 dBW/Hz           |
| Max. Transmit EIRP                                      | 25.25 dBW              |
| Co- or Cross Polar Mode                                 | C                      |
| Service Area Description                                | Visible earth          |

**Max. Power Flux Density**

|                    | * 0° - 5°<br>(dBW/m <sup>2</sup><br>/BW): | * 5° - 10°<br>(dBW/m <sup>2</sup><br>/BW): | * 10° - 15°<br>(dBW/m <sup>2</sup><br>/BW): | * 15° - 20°<br>(dBW/m <sup>2</sup><br>/BW): | * 20° - 25°<br>(dBW/m <sup>2</sup><br>/BW): | * 25° - 90°<br>(dBW/m <sup>2</sup><br>/BW): |
|--------------------|-------------------------------------------|--------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| <b>4.0<br/>kHz</b> | -153.3                                    | -151.3                                     | -149.5                                      | -147.9                                      | -146.6                                      | -141.1                                      |

**Transmitting  
Beams 8:**

| Question | Response |
|----------|----------|
|----------|----------|

|                                                         |                        |
|---------------------------------------------------------|------------------------|
| Beam ID                                                 | XTAL                   |
| Transmit Beam Frequency                                 | 8117.5 MHz -8282.5 MHz |
| Beam Type                                               | Steerable              |
| Polarization                                            | RHCP                   |
| Peak Gain                                               | 10.0 dBi               |
| Antenna Pointing Error                                  | 2.0 degrees            |
| Antenna Rotational Error                                | 0.5 degrees            |
| Polarization Switchable                                 |                        |
| Polarization Alignment Relative to the Equatorial Plane | 45.0 degrees           |
| Max. Transmit EIRP Density                              | -61.1 dBW/Hz           |
| Max. Transmit EIRP                                      | 17.5 dBW               |
| Co- or Cross Polar Mode                                 | C                      |
| Service Area Description                                | Visible earth          |

### Max. Power Flux Density

|            | * 0° - 5°           | * 5° - 10°          | * 10° - 15°         | * 15° - 20°         | * 20° - 25°         | * 25° - 90°         |
|------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|            | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> | (dBW/m <sup>2</sup> |
| *<br>BW:   | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               | /BW):               |
| 4.0<br>kHz | -161.0              | -159.0              | -157.3              | -155.7              | -154.3              | -147.8              |

**Transmitting  
Channels (19)**

| Channel ID | Channel Bandwidth (MHz) | Center Frequency s (MHz) | Feeder Link, Service Link or TT&C |
|------------|-------------------------|--------------------------|-----------------------------------|
| UD12       | 0.03                    | 401.5                    | TT&C                              |
| LT1        | 33.5                    | 1643.25                  | TT&C                              |
| UD1        | 0.03                    | 400.665                  | TT&C                              |
| UD10       | 0.03                    | 401.375                  | TT&C                              |
| UD11       | 0.03                    | 401.4375                 | TT&C                              |
| UD2        | 0.03                    | 400.735                  | TT&C                              |
| UD3        | 0.03                    | 400.805                  | TT&C                              |
| UD4        | 0.03                    | 400.875                  | TT&C                              |
| UD5        | 0.03                    | 400.945                  | TT&C                              |
| UD6        | 0.03                    | 401.015                  | TT&C                              |
| UD7        | 0.03                    | 401.085                  | TT&C                              |
| UD8        | 0.03                    | 401.155                  | TT&C                              |
| UD9        | 0.03                    | 401.225                  | TT&C                              |
| XA1        | 330.0                   | 8200.0                   | Service Link                      |
| XN1        | 330.0                   | 8200.0                   | Service Link                      |
| ST2        | 0.46                    | 2258.0                   | TT&C                              |
| XN2        | 165.0                   | 8200.0                   | Service Link                      |
| XA2        | 165.0                   | 8200.0                   | Service Link                      |
| ST1        | 0.46                    | 2249.0                   | TT&C                              |

## Certification Questions

| Question                                                                                                                                                                                  | Response |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Are the applicable service area coverage requirements of 25.143(b)(2) (ii) and (iii), or 25.144(a)(3)(i), or 25.145 (c)(1) and (2), or 25.146(i)(1) and (2), or 25.148(c), or 25.225 met? | N/A      |
| Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?                                                                    | Yes      |
| Are the cessation of emissions requirements of 25.207 met?                                                                                                                                | Yes      |
| Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?                                                     |          |
| For NGSO applications, are the applicable equivalent-power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?                   | N/A      |
| Are the applicable full-frequency-reuse requirements of 25.210 met?                                                                                                                       |          |
| If the application is for a 17/24 GHz BSS space station, will it be operated at an offset location with full power and interference protection in accordance with 25.262(b)?              |          |

# Attachments

| File Name               | Beam | Field                  | Attachment Type  | Description |
|-------------------------|------|------------------------|------------------|-------------|
| <a href="#">LR.pdf</a>  | LR   | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">XTN.pdf</a> | XTNL | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">XTN.pdf</a> | XTNH | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">XTA.pdf</a> | XTAL | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">XTA.pdf</a> | XTAH | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">UT.pdf</a>  | UT2  | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">UT.pdf</a>  | UT1  | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">LT.pdf</a>  | LT   | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">ST.pdf</a>  | ST   | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">UR.pdf</a>  | UR   | NGSO Antenna Gain Data | PDF file (*.pdf) |             |
| <a href="#">SR.pdf</a>  | SR   | NGSO Antenna Gain Data | PDF file (*.pdf) |             |