**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, DC 20554**

| | | |
|---|---|---|
| In the Matter of | ) | |
| | ) | |
| Heighliner Corp. | ) | File No. |
| | ) | |
| Application for Renewal of Special Temporary Authority | ) | Call sign |
| | ) | |

## APPLICATION FOR RENEWAL OF SPECIAL TEMPORARY AUTHORIZATION

Heighliner Corp. ("Heighliner"), a wholly owned subsidiary of Astranis Space Technologies Corp. ("Astranis"), hereby requests a renewal of Special Temporary Authority ("STA")[1] for an additional period of 60 days to support testing and operations of the following earth stations:

- 12 Astranis mobile earth stations located at Astranis's headquarters in San Francisco ("Pier 70");
- 12 Astranis mobile earth stations located in the Contiguous United States ("CONUS").

These earth stations communicate with the Anuvu Alpha[2] and Anuvu Bravo[3] satellites (formerly named "AstranisAero West" and "AstranisAero East," respectively) for testing purposes. These satellites, built by Astranis and launched on December 29, 2024, are collocated at the 83.1° W.L. orbital location. Astranis was previously granted STA for these earth stations and plans to file for permanent authority.[4] All operations will continue to be carried out in accordance with their respective test plans set forth in Exhibit A (Pier 70 operations) and Exhibit B (CONUS operations),

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[1] *See* ICFS File No. SES-STA-20260114-00989 (granted Mar. 17, 2026) (STA for mobile earth stations at Pier 70 and mobile earth stations in CONUS) ("*Pier 70 and CONUS STA*"); *see also* ICFS File No. SES-STA-20260513-01312 (granted May 28, 2026) (most recent STA renewal).

[2] *See* ICFS File No. SAT-PDR-20220823-00094 (granted June 5, 2025) (Call sign S3150).

[3] *See* ICFS File No. SAT-PDR-20220823-00093 (granted June 5, 2025) (Call sign S3151).

[4] *See Pier 70 and CONUS STA*, *supra* note 1.

attached below for convenience. These test plans remain identical to those previously authorized, except for the requested dates of operation, and all technical parameters are unchanged.

Grant of this STA extension will serve the public interest, convenience, and necessity by permitting these mobile earth stations to continue communicating with the Anuvu Alpha and Anuvu Bravo satellites. This will enable Astranis to verify proper network performance. Heighliner requests renewal of STA consistent with the technical parameters set forth in this application and its exhibits, for a 60-day period commencing July 27, 2026 and concluding September 25, 2026.

Respectfully submitted,

*/s/ Kailey D. Lauter*

Kailey D. Lauter
Regulatory Counsel

*/s/ Kimberly M. Baum*

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575 20th Street
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Dated: July 23, 2026

## EXHIBIT A: TEST PLAN FOR 12 EARTH STATIONS AT PIER 70

Technical Parameters for STA for communications with the Anuvu Alpha and Bravo satellites at 83.1 W.L. for up to 12 mobility terminals located at Astranis headquarters at Pier 70 San Francisco

**Description of special temporary authority**: The mobility terminals will be used to perform testing with the Anuvu Alpha and Bravo satellites until permanent authority is granted for these antennas.

1. **Satellites**: The earth stations will communicate with the Anuvu Alpha and Bravo satellites, built by Astranis and launched on December 29, 2024. These satellites are collocated at the 83.1 W.L. orbit location. Anuvu Alpha and Bravo satellites operate under U.S. market access that has been granted.

2. **Number of earth stations and their location**

| **Terminal (Manufacturer, Product Name)** | **Country, Region** | **Number of antennas/size** |
|---|---|---|
| SatCube Ku | Pier 70[5] | 3x<br>Flat panel antenna (47 x 33cm) |
| Global Konet Mini (GU320) | Pier 70 | 3x<br>Flat panel antenna (61 x 50cm) |
| L3Harris Shadow | Pier 70 | 3x<br>Flat panel antenna(16.6 x 17.7 in) |
| Requtech RESA M Ku | Pier 70 | 3x<br>Electronically steered array antenna (90 x 50 cm) |

3. **Requested dates of operation**: 60 days from July 27, 2026, and concluding September 25, 2026

4. **Frequencies and emission designators:**

   **4.1.** Transmit – Astranis will transmit carriers ranging from 2 MHz to 30 MHz in bandwidth within 14-14.5 GHz. Emission designators range from 2M00G1W to 30M0G1W.

[5] 37° 45' 38.0" North latitude and 122° 23' 8.7" West longitude; Address: 575 20th Street, San Francisco, CA 94107.

**4.2.** Receive – Astranis will receive carriers ranging from 2 MHz to 30 MHz in bandwidth within 10.95-11.2 and 11.45-12.2 GHz. Emission designators range from 2M00G1W to 30M0G1W.

5. **Uplink EIRP and EIRP density:** Each carrier transmitted will have a maximum EIRP of 41.0 to 49.0 dBW, depending on the antenna.

| **Terminal (Manufacturer, Product Name)** | **Maximum EIRP (dBW)** |
|---|---|
| SatCube Ku | 46.0 |
| Global Konet Mini (GU320) | 41.0 |
| L3Harris Shadow | 43.0 |
| Requtech RESA M Ku | 49.0 |

The off-axis EIRP density will comply with Section 25.218 of the Commission's rules.

6. **Downlink EIRP density**: The downlink EIRP density will not exceed +14 dBW/4kHz, consistent with Section 25.140 of the Commission's rules.

7. **Contact number in case of harmful interference**:

Astranis Mission Operations: +1 (877) 362-1747 and +1 844-278-7647, moc@astranis.com

The testing will be conducted on a non-harmful interference, non-protected basis. Upon notification of harmful interference, Astranis will immediately cease operations.

8. **RF Radiation Hazard**

**8.1. SatCube Ku Antenna**

For the SatCube Ku antenna, Astranis incorporates by reference the RF radiation hazard testing results submitted by the manufacturer and available in the FCC's equipment authorization database under FCC ID: 2AUV4SATCUBEKU.[6] The test report is dated November 19, 2020. The RF-exposure assessment shows that the FCC's general-population/uncontrolled limits are exceeded within 19 m of the pointing direction of the antenna and the occupational/controlled limits are exceeded within 7 m of the pointing direction of antenna. At typical elevation angles to Astranis satellites in CONUS, 30 degrees

[6] Satcube AB, FCC ID 2AUV4SATCUBEKU, RF exposure report (Nov. 17, 2020), available via FCC.report at https://fcc.report/FCC-ID/2AUV4SATCUBEKU.

or greater, and the typical height of an adult male (6 feet) and the antenna positioned 25 cm above the ground, the keep out distance reduces from 19 m to 2.5 m. At minimum elevation angles to Astranis satellites in CONUS, approximately 20 degrees, and the typical height of an adult male and the antenna positioned 25 cm above the ground, the keep out distance is 4 m. An RF-exclusion zone with a minimum radius of 4 m will be established around the antenna. The exclusion area will be physically secured and posted with noticeable RF-safety signage; entry by untrained personnel will be prevented, and trained staff may enter the occupational zone only under a transmitter shutdown or power-reduction procedure. With these controls in place, the installation will fully comply with the FCC's human-exposure requirements.

For the other antennas, the RF radiation hazard analysis was performed on seven zones around the antenna with the results shown in the Table below labeled "Radiation Hazard Zones." The Table labeled "Input Values" provides the input data required to perform the analysis. The table labeled "OET 65 Calculated Values" provides the intermediate calculation used to perform the assessment in accordance with OET 65. The analysis is performed for each of the seven radiation zones as described below:

Zone 1. Point between the feed and the sub-reflector
Zone 2. The power at the surface of the antenna
Zone 3. The power level between the main reflector and ground
Zone 4. The near-field or Fresnel region in which the maxima can be reached before the field starts to diminish with distance
Zone 5. The Transition region where power begins to decrease inversely with distance from the antenna
Zone 6. The Far Field or Fraunhofer region where power decreases inversely with the square of the distance. This is the point at which the antenna beam is fully collimated
Zone 7. The off-axis level in the near field. This is defined as the area outside of the main beam removed and at least one antenna diameter removed from the main beam

### 8.2. Global Konet Mini

| *Input Values* | *Value* | *Unit* |
|---|---|---|
| *D = Aperture Diameter* | *0.60* | *Meters* |
| *d = Subreflector Diameter* | *0.6* | *Meters* |
| *G = Antenna Gain* | *36.6* | *dBi* |
| *FCC Designation* | *Ku* | *Band* |
| *F = Frequency* | *14.500* | *GHz* |
| *P = Transmitter Power Watts:* | *4.4* | *Watts* |
| *$R_{ua}$ = closest point to uncontrolled area* | *20* | *meters* |

| | | |
|---|---|---|
| *Elevation angle at closest point $R_{ua}$* | *30* | *Degrees* |

| ***OET 65 Calculated Values*** | ***Formula*** | ***Value*** | ***Unit*** |
|---|---|---|---|
| *λ= Wavelength* | $\frac{c}{F}$ | *0.0207* | *meters* |
| *G = Antenna Gain* | $10^{(G/10)}$ | *4570.881896* | *(W) linear* |
| *h = Apperture Efficiency* | $\frac{Gl^2/4p}{pD^2/4}$ | *55%* | *percentage* |
| *A = Area of reflector* | $pR^2$ | *0.283* | *meters²* |
| *a = area of subreflector* | $pr^2$ | *2827.433* | *cm²* |
| *$R_{nf}$ = Near-Field Region* | $\frac{D^2}{4l}$ | *4.353* | *meters* |
| *$R_t$ = Transition Region* | $>R_{nf}$ | *4.353* | *>meters* |
| | $<R_{ff}$ | *10.447* | *<meters* |
| *$R_{ff}$ = Far Field Region* | $\frac{0.6D^2}{l}$ | *10.447* | *meters* |

| ***Radiation Analysis Zone*** | | ***Formula*** | ***Level*** | ***Value*** | ***Exposure Limits*** | |
|---|---|---|---|---|---|---|
| | | | | | ***General Public*** | ***Occupational*** |
| | | | | | *<1mW/cm2* | *<5mW/cm2* |
| *1* | *Power Subreflector* | $\frac{4P}{a}$ | *6.225* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| *2* | *Antenna Surface* | $\frac{4P}{A}$ | *6.225* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| *3* | *Main Reflector Ground* | $\frac{P}{A}$ | *1.556* | *mW/cm2* | *>FCC MPE See Note 1* | *<FCC MPE* |
| *4* | *$S_{nf}$ =Near-Field Power Density* | $\frac{4P}{hA}$ | *11.319* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| *5* | *$S_t$ = Max Transition Power Density* | $\leq S_{nf}$ | *11.319* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| *6* | *$S_{ff}$ = Max Far field Power Density* | $\frac{PG}{4pR_{ff}^2}$ | *1.466* | *mW/cm2* | *>FCC MPE See Note 3* | *<FCC MPE* |
| *7* | *Off Access Level Near Field* | $S_{nf}$ - 20 dB | *0.11319* | *mW/cm2* | *<FCC MPE* | *<FCC MPE* |

*Notes:*

1. *The antenna is installed in a controlled location access is restricted to authorized personnel only. The antenna is marked with RF Radiation Hazard signage.*
2. *Inside the controlled area, MPE levels exceed the MPE exposure for occupational levels. The levels will be reduced to safe MPE by removing power to the transmitters when work is performed on or around the antenna. This area can only be accessed by qualified personnel.*
3. *The field develops 10.0 meters above ground level at the minimum elevation angle which is not accessible to the general public.*

The radiation analysis levels shown above for the Global Konet Mini results in a Category 3 mitigation and safety plan as per Section 1.307(c)(4) of the Commission's rules. During the testing period, the Global Konet Mini antenna will be installed on the rooftop of the Astranis headquarters facility. Access to this area is strictly limited to authorized Astranis personnel directly involved in the test activities. Accordingly, all antenna testing and operational activities will occur within a controlled, restricted-access environment that is isolated from the general public. Consequently, given the measures described in the above Notes, there is no risk of radiation exposure beyond the acceptable limits. These equations were developed for parabolic antennas and have been adapted as much as possible for the flat panel case. Safety mitigations will occur as described in the notes above.

### 8.3. L3Harris Shadow

| *Input Values* | *Value* | *Unit* |
|---|---|---|
| *D = Aperture Diameter* | *0.45* | *Meters* |
| *d = Subreflector Diameter* | *0.45* | *Meters* |
| *G = Antenna Gain* | *34.1* | *dBi* |
| *FCC Designation* | *Ku* | *Band* |
| *F = Frequency* | *14.500* | *GHz* |
| *P = Transmitter Power Watts:* | *8.9* | *Watts* |
| *$R_{ua}$ = closest point to uncontrolled area* | *20* | *meters* |
| *Elevation angle at closest point $R_{ua}$* | *30* | *Degrees* |

| *OET 65 Calculated Values* | *Formula* | *Value* | *Unit* |
|---|---|---|---|
| *λ= Wavelength* | $\frac{c}{F}$ | *0.0207* | *meters* |
| *G = Antenna Gain* | $10^{(G/10)}$ | *2570.395783* | *(W) linear* |
| *h = Apperture Efficiency* | $\frac{Gl^2/4p}{pD^2/4}$ | *55%* | *percentage* |
| *A = Area of reflector* | $pR^2$ | *0.159* | *meters²* |
| *a = area of subreflector* | $pr^2$ | *1590.431* | *cm²* |
| *$R_{nf}$ = Near-Field Region* | $\frac{D^2}{4l}$ | *2.449* | *meters* |
| *$R_t$ = Transition Region* | $>R_{nf}$ | *2.449* | *>meters* |
| | $<R_{ff}$ | *5.876* | *<meters* |
| *$R_{ff}$ = Far Field Region* | $\frac{0.6D^2}{l}$ | *5.876* | *meters* |

| *Radiation Analysis Zone* | | *Formula* | *Level* | *Value* | *Exposure Limits* | |
|---|---|---|---|---|---|---|
| | | | | | *General Public* | *Occupational* |
| | | | | | *<1mW/cm2* | *<5mW/cm2* |
| *1* | *Power Subreflector* | $\frac{4P}{a}$ | *22.384* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | *Antenna Surface* | $\frac{4P}{A}$ | *22.384* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| 3 | *Main Reflector Ground* | $\frac{P}{A}$ | *5.596* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| 4 | $S_{nf}$ *=Near-Field Power Density* | $\frac{4P}{hA}$ | *40.713* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| 5 | $S_t$ *= Max Transition Power Density* | $\leq S_{nf}$ | *40.713* | *mW/cm2* | *>FCC MPE See Note 1* | *>FCC MPE See Note 2* |
| 6 | $S_{ff}$ *= Max Far field Power Density* | $\frac{PG}{4pR_{ff}^2}$ | *5.272* | *mW/cm2* | *>FCC MPE See Note 3* | *>FCC MPE See Note 2* |
| 7 | *Off Access Level Near Field* | $S_{nf}$ - 20 dB | *0.40713* | *mW/cm2* | *<FCC MPE* | *<FCC MPE* |

*Notes:*

1. *The antenna is installed in a controlled location access is restricted to authorized personnel only. The antenna is marked with RF Radiation Hazard signage.*
2. *Inside the controlled area, MPE levels exceed the MPE exposure for occupational levels. The levels will be reduced to safe MPE by removing power to the transmitters when work is performed on or around the antenna. This area can only be accessed by qualified personnel.*
3. *The field develops 10.0 meters above ground level at the minimum elevation angle which is not accessible to the general public.*

The radiation analysis levels shown above for the L3Harris Shadow results in a Category 3 mitigation and safety plan as per Section 1.307(c)(4) of the Commission's rules. Consequently, there is no risk of radiation exposure beyond the acceptable limits. During the testing period, the L3Harris Shadow antenna will be installed on the rooftop of the Astranis headquarters facility. Access to this area is strictly limited to authorized Astranis personnel directly involved in the test activities. Accordingly, all antenna testing and operational activities will occur within a controlled, restricted-access environment that is isolated from the general public These equations were developed for parabolic antennas and have been adapted as much as possible for the flat panel case. Safety mitigations will occur as described in the notes above.

### 8.4. Requtech RESA M Ku

| *Input Values* | *Value* | *Unit* |
|---|---|---|
| *D = Aperture Diameter* | *0.90* | *Meters* |
| *d = Subreflector Diameter* | *0.9* | *Meters* |
| *G = Antenna Gain* | *40.1* | *dBi* |
| *FCC Designation* | *Ku* | *Band* |
| *F = Frequency* | *14.500* | *GHz* |
| *P = Transmitter Power Watts:* | *8.9* | *Watts* |
| $R_{ua}$ *= closest point to uncontrolled area* | *20* | *meters* |
| *Elevation angle at closest point* $R_{ua}$ | *30* | *Degrees* |

| OET 65 Calculated Values | Formula | Value | Unit |
|---|---|---|---|
| $\lambda$= Wavelength | $\frac{c}{F}$ | 0.0207 | meters |
| G = Antenna Gain | $10^{(G/10)}$ | 10232.92992 | (W) linear |
| h = Apperture Efficiency | $\frac{Gl^2/4p}{pD^2/4}$ | 55% | percentage |
| A = Area of reflector | $pR^2$ | 0.636 | $meters^2$ |
| a = area of subreflector | $pr^2$ | 6361.725 | $cm^2$ |
| $R_{nf}$ = Near-Field Region | $\frac{D^2}{4l}$ | 9.794 | meters |
| $R_t$ = Transition Region | $>R_{nf}$ | 9.794 | >meters |
| | $<R_{ff}$ | 23.506 | <meters |
| $R_{ff}$ = Far Field Region | $\frac{0.6D^2}{l}$ | 23.506 | meters |

| | Radiation Analysis Zone | Formula | Level | Value | Exposure Limits | |
|---|---|---|---|---|---|---|
| | | | | | General Public | Occupational |
| | | | | | <1mW/cm2 | <5mW/cm2 |
| 1 | Power Subreflector | $\frac{4P}{a}$ | 5.596 | mW/cm2 | >FCC MPE See Note 1 | >FCC MPE See Note 2 |
| 2 | Antenna Surface | $\frac{4P}{A}$ | 5.596 | mW/cm2 | >FCC MPE See Note 1 | >FCC MPE See Note 2 |
| 3 | Main Reflector Ground | $\frac{P}{A}$ | 1.399 | mW/cm2 | >FCC MPE See Note 1 | <FCC MPE |
| 4 | $S_{nf}$ =Near-Field Power Density | $\frac{4P}{hA}$ | 10.227 | mW/cm2 | >FCC MPE See Note 1 | >FCC MPE See Note 2 |
| 5 | $S_t$ = Max Transition Power Density | $\leq S_{nf}$ | 10.227 | mW/cm2 | >FCC MPE See Note 1 | >FCC MPE See Note 2 |
| 6 | $S_{ff}$ = Max Far field Power Density | $\frac{PG}{4pR_{ff}^2}$ | 1.312 | mW/cm2 | >FCC MPE See Note 3 | <FCC MPE |
| 7 | Off Access Level Near Field | $S_{nf}$ - 20 dB | 0.10227 | mW/cm2 | <FCC MPE | <FCC MPE |

*Notes:*

1. *The antenna is installed in a controlled location access is restricted to authorized personnel only. The antenna is marked with RF Radiation Hazard signage.*
2. *Inside the controlled area, MPE levels exceed the MPE exposure for occupational levels. The levels will be reduced to safe MPE by removing power to the transmitters when work is performed on or around the antenna. This area can only be accessed by qualified personnel.*
3. *The field develops 10.0 meters above ground level at the minimum elevation angle which is not accessible to the general public.*

The radiation analysis levels shown above for the Requtech RESA M Ku results in a Category 3 mitigation and safety plan as per Section 1.307(c)(4) of the Commission's rules. During the testing period, the Requtech RESA M Ku antenna will be installed on the rooftop of the Astranis headquarters facility. Access to this area is strictly limited to authorized Astranis personnel directly involved in the test activities. Accordingly, all antenna testing and

operational activities will occur within a controlled, restricted-access environment that is isolated from the general public. Consequently, given the measures described in the above Notes, there is no risk of radiation exposure beyond the acceptable limits. These equations were developed for parabolic antennas and have been adapted as much as possible for the flat panel case. Safety mitigations will occur as described in the Notes above.

## EXHIBIT B: TEST PLAN FOR CONUS MOBILE EARTH STATIONS

Technical Parameters for STA for communications with the Anuvu Alpha and Bravo satellites at 83.1 W.L. from up to 12 mobility terminals located in the Contiguous United States (CONUS).

1. **Description of special temporary authority**: The mobility terminals will be used to perform testing with the Anuvu Alpha and Bravo satellites until permanent authority is granted for these antennas.

2. **Satellites**: The earth stations will communicate with the Anuvu Alpha and Bravo satellites, built by Astranis and launched on December 29, 2024. These satellites are collocated at the 83.1 W.L. orbit location. Anuvu Alpha and Bravo satellites operate under U.S. market access that has been granted.

3. **Number of earth stations and their location**

| **Terminal (Manufacturer, Product Name)** | **Country, Region** | **Number of antennas/size** |
|---|---|---|
| SatCube Ku | CONUS | 4x<br>Flat panel antenna (35 cm parabolic equivalent) |
| Kymeta Goshawk U8 (GEO) | CONUS | 4x<br>Electronically steered array antenna 82cm diameter (circular) |
| Kymeta Osprey U8 (GEO) | CONUS | 4x<br>Electronically steered array antenna 82cm diameter (circular) |

4. **Requested dates of operation**: 60 days from July 27, 2026, and concluding September 25, 2026

5. **Frequencies and emission designators:**

    a. Transmit – Astranis will transmit carriers ranging from 2 MHz to 30 MHz in bandwidth within 14-14.5 GHz. Emission designators range from 2M00G1W to 30M0G1W.
    b. Receive – Astranis will receive carriers ranging from 2 MHz to 30 MHz in bandwidth within 10.95-11.2 and 11.45-12.2 GHz. Emission designators range from 2M00G1W to 30M0G1W.

6. **Uplink EIRP and EIRP density:** Each carrier transmitted will have a maximum EIRP of 46 to 47.2 dBW, depending on the antenna.

| **Terminal (Manufacturer, Product Name)** | **Maximum EIRP (dBW)** |
|---|---|
| SatCube Ku | 46.0 |
| Kymeta Goshawk U8 (GEO) | 47.2 |
| Kymeta Osprey U8 (GEO) | 47.2 |

7. **Downlink EIRP density**: The downlink EIRP density will not exceed +14 dBW/4kHz, consistent with Section 25.140 of the Commission's rules.

8. **Antenna gain**:

| **Terminal (Manufacturer, Product Name)** | **Peak antenna gain (dBi)** |
|---|---|
| SatCube Ku | 31.3 |
| Kymeta Goshawk U8 (GEO) | 35.1 |
| Kymeta Osprey U8 (GEO) | 35.1 |

9. **Contact number in case of harmful interference**:

   Astranis Mission Operations: +1 (877) 362-1747 and +1 844-278-7647, moc@astranis.com

   The testing will be conducted on a non-harmful interference, non-protected basis. Upon notification of harmful interference, Astranis will immediately cease operations.

10. **RF Radiation Hazard**:

    The antennas proposed to be utilized under this STA have been filed for Commission previously and RF radiation hazard testing results have been presented.

    For the SatCube Ku antenna, Astranis incorporates by reference the RF radiation hazard testing results submitted by the manufacturer and available in the FCC's equipment authorization database under FCC ID: 2AUV4SATCUBEKU.[7] The test report is dated November 19, 2020. The RF-exposure assessment shows that the FCC's general-population/uncontrolled limits are exceeded within 19 m of the pointing direction of the

[7] Satcube AB, FCC ID 2AUV4SATCUBEKU, RF exposure report (Nov. 17, 2020), available via FCC.report at https://fcc.report/FCC-ID/2AUV4SATCUBEKU.

antenna and the occupational/controlled limits are exceeded within 7 m of the pointing direction of antenna. At typical elevation angles to Astranis satellites in CONUS, 30 degrees or greater, and the typical height of an adult male (6 feet) and the antenna positioned 25 cm above the ground, the keep out distance reduces from 19 m to 2.5 m. At minimum elevation angles to Astranis satellites in CONUS, approximately 20 degrees, and the typical height of an adult male and the antenna positioned 25 cm above the ground, the keep out distance is 4 m. An RF-exclusion zone with a minimum radius of 4 m will be established around the antenna. The exclusion area will be physically secured and posted with noticeable RF-safety signage; entry by untrained personnel will be prevented, and trained staff may enter the occupational zone only under a transmitter shutdown or power-reduction procedure. With these controls in place, the installation will fully comply with the FCC's human-exposure requirements.

For the Kymeta Goshawk U8 antenna, Astranis incorporates by reference the RF radiation hazard testing results submitted by the manufacturer and available as part of a Kymeta earth station application (SES-MOD-20200611-00674, attached RF Radiation Hazard Analyses, submitted June 11, 2020). The summary, starting on page 27 of the Kymeta RF Radiation Hazard Attachment, concludes that the limits to protect occupational staff are not exceeded, and that the limits to protect the general public are exceeded within 50 cm of the antenna and within 1.55 m of the edge of the terminal. The analyses used a maximum duty cycle of 30%. Astranis will follow the signage and access control measures described on pages 27-30 of the Kymeta RF Radiation Hazard Attachment, as well as the 30% duty cycle limitation.

For the Kymeta Osprey U8 antenna, Astranis incorporates by reference the RF radiation hazard testing results submitted by the manufacturer and available as part of a Kymeta earth station application (SES-MOD-20211110-01988, attached RF Radiation Hazard Analyses, submitted November 10, 2021). The summary, starting on page 27 of the RF Radiation Hazard Attachment, conclude that the limits to protect occupational are exceeded in a vertical column extending 100 cm radially from the center of the antenna up to a height of 20 cm above the horizontal plane of the antenna. The summary also concludes that the limits to protect the general public are exceeded in a vertical column within the diameter of the antenna up to 300 cm from the surface of the antenna and in a vertical column extending 200 cm radially from the center of the antenna up to a height of 50 cm above the horizontal plane of the antenna. The analyses used a maximum duty cycle of 30%. Astranis will follow the signage and access control measures described on pages 27-30 of the Kymeta RF Radiation Hazard Attachment, as well as the 30% duty cycle limitation.