

# Schedule S NGSO

## S1. Satellite Information

← ☰ Satellite DRAFT-SAT-MOD-20240725-00044 ⋮
Schedule S Review Form 312 Schedule S Instructions Save Record

File Number  ① Call Sign

### S1. Satellite Information

a. Space Station or Satellite Network Name

b. Orbit Type

c. Estimated Operational Lifetime of Space Station(s) From Date of Launch (yrs)

d. Will the space station(s) operate on a Common Carrier basis?

e. Application Description

Schedule S Review Form 312 Schedule S Instructions Save Record

S2. Operating Frequency Bands (6) S3. NGSO Orbital Information (1) S4. Earth-to-Space (Receive) Beams (3) S5. Space-to-Earth (Transmit) Beams (3) S6. Space-to-Space (Receive) Beams (1)

S7. Space-to-Space (Transmit) Beams (1) S8. Attachments (14)

☰					⊙	—	Actions on selected rows...	New
<input type="checkbox"/>	(i) Document Type	(ii) If Document Type is "Other", provide short description	(iii) File Name	Beam ID	Direction of Transmission ▲			
<input type="checkbox"/>	Request for Waiver		Document 20.docx	(empty)				
<input type="checkbox"/>	Coverage Area Map		Murdock Updated March 2023 Project File.kmz	(empty)				
<input type="checkbox"/>	Other	Link Budget for Beams B3, B4, B7, B8	Document 7.docx	(empty)				

## S2. Operating Frequency Bands

← ☰ Satellite DRAFT-SAT-MOD-20240725-00044 ⋮
Schedule S Review Form 312 Schedule S Instructions Save Record

File Number  ① Call Sign

### S1. Satellite Information

a. Space Station or Satellite Network Name

b. Orbit Type

c. Estimated Operational Lifetime of Space Station(s) From Date of Launch (yrs)

d. Will the space station(s) operate on a Common Carrier basis?

e. Application Description

Schedule S Review Form 312 Schedule S Instructions Save Record

S2. Operating Frequency Bands (6) S3. NGSO Orbital Information (1) S4. Earth-to-Space (Receive) Beams (3) S5. Space-to-Earth (Transmit) Beams (3) S6. Space-to-Space (Receive) Beams (1)

S7. Space-to-Space (Transmit) Beams (1) S8. Attachments (14)

☰					⊙	—	Actions on selected rows...	New
<input type="checkbox"/>	a. Type of Service ▲	b. If a. is Other, provide a service description	c. Satellite Frequency Band (MHz)	d. Satellite Frequency (Lower Band Edge) (MHz)	e. Satellite Frequency			
<input type="checkbox"/>	FSS		5925 - 6425	5925				
<input type="checkbox"/>	FSS		3700 - 4200	3700				
<input type="checkbox"/>	ISS		22550 - 23550	22550				
<input type="checkbox"/>	ISS		25500 - 27000	25500				

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### S2. Operating Frequency Bands

a. Type of Service

f. Direction of Transmission -- None --

b. If a. is Other, provide a service description

g. Non Conforming Indicator

c. Satellite Frequency Band (MHz)

If your Frequency Band is not listed, click the magnifying glass and select "Other" to manually enter the Frequency Band.

d. Satellite Frequency (Lower Band Edge) (MHz)

e. Satellite Frequency (Upper Band Edge) (MHz)

Schedule S Instructions Save Record

### S3. Orbital Information

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### S3. NGSO Orbital Information

a. Total Number of Simultaneously Operating Satellites in Constellation 30

d. Celestial Reference Body Earth

b. Total Number of Satellites Deployed During the License Term 60

e. If d. is "Other", provide the name of celestial body being referenced

c. Orbit Epoch Date 2024-08-01

f. Total Number of Orbital Planes 15

Click the "Save Record" button to generate a table to enter the associated orbital plane information under the "g. Orbital Plane Information" tab.

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g. Orbital Plane Information

Actions on selected rows... New

(i) Orbital Plane No.	(ii) Number of Satellites in Plane	(iii) Inclination Angle (°)	(iv) Inclination Angle Tolerance (+/- °)	(xi) Right Ascension of Ascending Node (°)
1	2	57.5	0.1	0
2	2	57.5	0.1	60
3	2	57.5	0.1	120
4	2	57.5	0.1	180
5	2	57.5	0.1	180

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### g. Orbital Plane Information

(i) Orbital Plane No.	<input type="text"/>	(x) Argument of Perigee (°)	<input type="text"/>
(ii) Number of Satellites in Plane	<input type="text"/>	(xi) Right Ascension of Ascending Node (°)	<input type="text"/>
(iii) Inclination Angle (°)	<input type="text"/>	(xii) Right Ascension of Ascending Node Tolerance (+/- °)	<input type="text"/>
(iv) Inclination Angle Tolerance (+/- °)	<input type="text"/>	(xiii) Active Service Arc Begin Angle with Respect to Ascending Node (°)	<input type="text"/>
(v) Orbital Period (seconds)	<input type="text"/>	(xiv) Active Service Arc End Angle with Respect to Ascending Node (°)	<input type="text"/>
(vi) Apogee (km)	<input type="text"/>	(xv) Is additional info on the active service arc provided in the application?	-- None --
(vii) Apogee Tolerance (+/- km)	<input type="text"/>	(xvi) Satellite Spacing	-- None --
(viii) Perigee (km)	<input type="text"/>	(xvii) Phase Angle Spacing (°)	<input type="text"/>
(ix) Perigee Tolerance (+/- km)	<input type="text"/>	(xviii) First Satellite Initial Phase Angle (°)	<input type="text"/>
		(xix) Maximum Orbital Eccentricity	<input type="text"/>

Click the "Save Record" button to generate a table to enter the associated initial phase angle information under the "h. Initial Phase Angle Information" tab.

## S4. Earth-to-Space (Receive) Beams

File Number  Call Sign

### S1. Satellite Information

a. Space Station or Satellite Network Name

b. Orbit Type

c. Estimated Operational Lifetime of Space Station(s) From Date of Launch (yrs)

d. Will the space station(s) operate on a Common Carrier basis?

e. Application Description

Actions on selected rows... <span style="float: right;">New</span>					
<input type="checkbox"/>	a. Beam ID	b. Beam Frequency (Lower Band Edge) (MHz)	c. Beam Frequency (Upper Band Edge) (MHz)	d. Polarization	f. Is this a command beam? (Check box if Yes)
<input type="checkbox"/>	UR	449.75	450.25	H	false
<input type="checkbox"/>	SR	2025	2110	RHCP	false

1 to 2 of 2

### S4. Earth-to-Space (Receive) Beams

\* a. Beam ID

\* b. Beam Frequency (Lower Band Edge) (MHz)

\* c. Beam Frequency (Upper Band Edge) (MHz)

\* d. Polarization

e. Can the space station vary the channel bandwidth with on-board processing?

f. Is this a command beam? (Check box if Yes)

g. Is the beam shapeable? (Check box if Yes)

h. Is the beam steerable? (Check box if Yes)

i. Is the beam fed into transponders? (Check box if Yes)

\* j. Maximum G/T (dB/K)

k. Minimum G/T (dB/K)

l. Maximum Saturation Flux Density (dBW/m<sup>2</sup>)

m. Minimum Saturation Flux Density (dBW/m<sup>2</sup>)

n. Beam Peak Flux Density at Command Threshold (dBW/m<sup>2</sup>)

o. Peak Isotropic Antenna Gain (dBi)

p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi)

q. Antenna Pointing Error (°)

r. Antenna Rotational Error (°)

s. Will a GIMS container file containing all antenna contour data be provided?

t. Under what rules will the associated antenna contours be submitted?

u. Provide a list of each orbital plane in which this antenna beam is used.

v. Are all space stations in the NGSO constellation identical?

w. What information will be provided with the predicted antenna gain contours?

Please click the "Save Record" button to generate a table to enter the associated channel information under the "x. Receive Channels" tab, and to attach the required §25.114(c)(4)(vi) or §25.114(c)(4)(vii) documentation under the "z. Beam Attachments" tab.

Return to Main Menu Clone Beam Schedule S Instructions Clone Beam with Channels/PFDs Create Channels in Bulk Save Record Delete Record

x. Receive Channels		z. Beam Attachments		
(i) Document Type	(ii) If Document Type is "Other", provide short description	(iii) File Name	a. Beam ID	Direction of Transmission
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>☰</span> <span>⚙️</span> <span>—</span> <span>New</span> </div>				

File Number  Call Sign

### x. Channels

Beam ID  ⓘ

Beam Frequency Band (MHz)

(i) Channel ID

(ii) Channel Bandwidth (MHz)

(iii) Center Frequency (MHz)

(iv) Channel Frequency (Lower Band Edge) (MHz)

(v) Channel Frequency (Upper Band Edge) (MHz)

(vi) Channel Type

Return to Beam Information Schedule S Instructions Save Record

Satellite

Call Sign

### Attachments

Beam ID

Use this field to link the attachment directly to a beam. (Optional for all other attachments.)

(i) Document Type

(ii) If Document Type is "Other", provide short description

Direction of Transmission

(iii) File Name [Click to add...](#)

## S5. Space-to-Earth (Transmit) Beams

### S5. Space-to-Earth (Transmit) Beams

\* a. Beam ID

\* b. Beam Frequency (Lower Band Edge) (MHz)

\* c. Beam Frequency (Upper Band Edge) (MHz)

\* d. Polarization

e. Can the space station vary the channel bandwidth with on-board processing?

f. Is this a command beam? (Check box if Yes)

g. Is the beam shapeable? (Check box if Yes)

h. Is the beam steerable? (Check box if Yes)

i. Is the beam fed into transponders? (Check box if Yes)

\* j. Maximum Transmit EIRP Density (dBW/Ref BW)

\* k. Maximum Transmit EIRP (dBW)

l. Minimum Cross-Polar Isolation within Service Area (dB)

m. Minimum Saturation Flux Density (dBW/m<sup>2</sup>)

n. Beam Peak Flux Density at Command Threshold (dBW/m<sup>2</sup>)

o. Peak Isotropic Antenna Gain (dBi)

p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi)

q. Antenna Pointing Error (°)

r. Antenna Rotational Error (°)

s. Will a GIMS container file containing all antenna contour data be provided?

t. Under what rules will the associated antenna contours be submitted?

u. Provide a list of each orbital plane in which this antenna beam is used.

v. Are all space stations in the NGSO constellation identical?

w. What information will be provided with the predicted antenna gain contours?

Please click the "Save Record" button to generate a table to enter the associated channel information under the "x. Transmit Channels" tab, the maximum power-flux density information under the "y. Max. Power-Flux Densities" tab, and to attach the required §25.114(c)(4)(vi) or §25.114(c)(4)(vii) documentation under the "z. Beam Attachments" tab.

x. Transmit Channels y. Max. Power-Flux Densities **z. Beam Attachments**

(i) Document Type	(ii) If Document Type is "Other", provide short description	(iii) File Name	a. Beam ID	Direction of Transmission

File Number

Call Sign

### x. Channels

Beam ID  ⓘ

Beam Frequency Band (MHz) ⓘ

(i) Channel ID

(ii) Channel Bandwidth (MHz)

(iii) Center Frequency (MHz)

(iv) Channel Frequency (Lower Band Edge) (MHz)

(v) Channel Frequency (Upper Band Edge) (MHz)

(vi) Channel Type

### y. Max. Power-Flux Densities

Beam ID  ⓘ

Beam Frequency Band (MHz) ⓘ

(i) Beam Sub-Frequency (Lower Band Edge) (MHz)

(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)

Enter the applicable maximum power flux density (PFD) values for the transmit beam. Enter all associated data in the displayed fields. Power Flux Density values must be between -1000.0 and -50.0 dBW/m<sup>2</sup>/BW.

a.) Bandwidth: From the drop down list, select a reference bandwidth of 4 kHz, 1 MHz or 200 MHz appropriate to the transmission band, as specified in Section 25.208.

b.) For all satellite services and frequency bands covered and not covered by the following two cases, provide the maximum PFD values at angles of arrival of 0-2°, 2-5°, 5-15°, 15-20°, 20-25° and 25-90° above the horizon in dBW/m<sup>2</sup>/BW.

c.) For NGSO/FSS sharing with MVDDS in the 12200-12700 MHz frequency band, provide the maximum PFD values at angles of arrival of 0-2°, and 2-5° above the horizon in dBW/m<sup>2</sup>/BW.

d.) For DBS or 17/24 GHz BSS, and/or service within any portion of the 17300-17800 MHz frequency band, provide the maximum PFD values in each of the Southeastern, Northeastern, Western and Other geographic regions in dBW/m<sup>2</sup>/BW, as defined in § 25.208(w).

#### Reference Bandwidth

(iii) Reference Bandwidth (BW)

#### Angles of Arrival PFD

(iv) 0-2° (dBW/m<sup>2</sup>/BW)

(v) 2-5° (dBW/m<sup>2</sup>/BW)

(vi) 5-15° (dBW/m<sup>2</sup>/BW)

(vii) 15-20° (dBW/m<sup>2</sup>/BW)

(viii) 20-25° (dBW/m<sup>2</sup>/BW)

(ix) 25-90° (dBW/m<sup>2</sup>/BW)

**Geographic Region PFD**

(x) Southeastern Region (dBW/m<sup>2</sup>/BW)

(xi) Northeastern Region (dBW/m<sup>2</sup>/BW)

(xii) Western Region (dBW/m<sup>2</sup>/BW)

(xiii) Other Region (dBW/m<sup>2</sup>/BW)

**Energy Dispersal Bandwidth**

(xiv) Energy Dispersal Bandwidth (kHz)

[Return to Beam Information](#) [Schedule S Instructions](#) [Save Record](#)

< ≡ Attachments New record ... [Return to Beam Information](#) [Schedule S Instructions](#) [Save Record](#)

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Call Sign

**Attachments**

Beam ID

Use this field to link the attachment directly to a beam. (Optional for all other attachments.)

(i) Document Type

(ii) If Document Type is "Other", provide short description

Direction of Transmission

(iii) File Name [Click to add...](#)

[Return to Beam Information](#) [Schedule S Instructions](#) [Save Record](#)

**S6. Space-to-Space (Receive) Beams**

File Number DRAFT-SAT-LOA-20240725-00043 Call Sign

### S6. Space-to-Space (Receive) Beams

\* a. Beam ID

\* b. Beam Frequency (Lower Band Edge) (MHz)

\* c. Beam Frequency (Upper Band Edge) (MHz)

\* d. Polarization

e. Can the space station vary the channel bandwidth with on-board processing? -- None --

f. Is this a command beam? (Check box if Yes)

g. Is the beam shapeable? (Check box if Yes)

h. Is the beam steerable? (Check box if Yes)

i. Is the beam fed into transponders? (Check box if Yes)

\* j. Maximum G/T (dB/K)

k. Minimum G/T (dB/K)

l. Maximum Saturation Flux Density (dBW/m<sup>2</sup>)

m. Minimum Saturation Flux Density (dBW/m<sup>2</sup>)

n. Beam Peak Flux Density at Command Threshold (dBW/m<sup>2</sup>)

o. Peak Isotropic Antenna Gain (dBi)

p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi)

q. Antenna Pointing Error (°)

r. Antenna Rotational Error (°)

s. Will a GIMS container file containing all antenna contour data be provided? -- None --

t. Under what rules will the associated antenna contours be submitted?

u. Provide a list of each orbital plane in which this antenna beam is used.

v. Are all space stations in the NGSO constellation identical? -- None --


w. What information will be provided with the predicted antenna gain contours? -- None --

Please click the "Save Record" button to generate a table to enter the associated channel information under the "x. Receive Channels" tab, and to attach the required §25.114(c)(4)(vi) or §25.114(c)(4)(vii) documentation under the "z. Beam Attachments" tab.

Schedule S Instructions Save Record

Return to Main Menu Clone Beam Schedule S Instructions Clone Beam with Channels/PFDs Create Channels in Bulk Save Record Delete Record

x. Receive Channels z. Beam Attachments

(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)
 <p>No records to display</p>				



Satellite

Call Sign

### Attachments

Beam ID

Use this field to link the attachment directly to a beam. (Optional for all other attachments.)

(i) Document Type

(ii) If Document Type is "Other", provide short description

Direction of Transmission

(iii) File Name [Click to add...](#)

File Number

Call Sign

### x. Channels

Beam ID

Beam Frequency Band (MHz)

(i) Channel ID

(ii) Channel Bandwidth (MHz)

(iii) Center Frequency (MHz)

(iv) Channel Frequency (Lower Band Edge) (MHz)

(v) Channel Frequency (Upper Band Edge) (MHz)

(vi) Channel Type

(vii) Point of Communication

## S7. Space-to-Space (Transmit) Beams

File Number DRAFT-SAT-LOA-20240725-00043

Call Sign

### S7. Space-to-Space (Transmit) Beams

\* a. Beam ID

\* b. Beam Frequency (Lower Band Edge) (MHz)

\* c. Beam Frequency (Upper Band Edge) (MHz)

\* d. Polarization

e. Can the space station vary the channel bandwidth with on-board processing?

f. Is this a command beam? (Check box if Yes)

g. Is the beam shapeable? (Check box if Yes)

h. Is the beam steerable? (Check box if Yes)

i. Is the beam fed into transponders? (Check box if Yes)

\* j. Maximum Transmit EIRP Density (dBW/Ref BW)

\* k. Maximum Transmit EIRP (dBW)

l. Minimum Saturation Flux Density (dBW/m<sup>2</sup>)

m. Beam Peak Flux Density at Command Threshold (dBW/m<sup>2</sup>)

\* o. Peak Isotropic Antenna Gain (dBi)

\* p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi)

q. Antenna Pointing Error (°)

r. Antenna Rotational Error (°)

s. Will a GIMS container file containing all antenna contour data be provided?

t. Under what rules will the associated antenna contours be submitted?

u. Provide a list of each orbital plane in which this antenna beam is used.

v. Are all space stations in the NGSO constellation identical?

w. What information will be provided with the predicted antenna gain contours?

Please click the "Save Record" button to generate a table to enter the associated channel information under the "x. Transmit Channels" tab, the maximum power-flux density information under the "y. Max. Power-Flux Densities" tab, and to attach the required §25.114(c)(4)(vi) or §25.114(c)(4)(vii) documentation under the "z. Beam Attachments" tab.

[Return to Main Menu](#)
[Clone Beam](#)
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[Clone Beam with Channels/PFDs](#)
[Create Channels in Bulk](#)
[Save Record](#)
[Delete Record](#)

x. Transmit Channels    y. Max. Power-Flux Densities    z. Beam Attachments

(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m <sup>2</sup> /BW)	(v) 2-5° (dBW/m <sup>2</sup> /BW)
				

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### x. Channels

Beam ID  ⓘ  
 Beam Frequency Band (MHz)

(i) Channel ID   
 (ii) Channel Bandwidth (MHz)   
 (iii) Center Frequency (MHz)   
 (iv) Channel Frequency (Lower Band Edge) (MHz)   
 (v) Channel Frequency (Upper Band Edge) (MHz)   
 (vi) Channel Type   
 (vii) Point of Communication

File Number

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### y. Max. Power-Flux Densities

Beam ID  ⓘ  
 Beam Frequency Band (MHz)

(i) Beam Sub-Frequency (Lower Band Edge) (MHz)   
 (ii) Beam Sub-Frequency (Upper Band Edge) (MHz)

Enter the applicable maximum power flux density (PFD) values for the transmit beam. Enter all associated data in the displayed fields. Power Flux Density values must be between -1000.0 and -50.0 dBW/m<sup>2</sup>/BW.

a.) Bandwidth: From the drop down list, select a reference bandwidth of 4 kHz, 1 MHz or 200 MHz appropriate to the transmission band, as specified in Section 25.208.

b.) For all satellite services and frequency bands covered and not covered by the following two cases, provide the maximum PFD values at angles of arrival of 0-2°, 2-5°, 5-15°, 15-20°, 20-25° and 25-90° above the horizon in dBW/m<sup>2</sup>/BW.

c.) For NGSO/FSS sharing with MVDDS in the 12200-12700 MHz frequency band, provide the maximum PFD values at angles of arrival of 0-2°, and 2-5° above the horizon in dBW/m<sup>2</sup>/BW.

d.) For DBS or 17/24 GHz BSS, and/or service within any portion of the 17300-17800 MHz frequency band, provide the maximum PFD values in each of the Southeastern, Northeastern, Western and Other geographic regions in dBW/m<sup>2</sup>/BW, as defined in § 25.208(w).

**Reference Bandwidth**

(iii) Reference Bandwidth (BW)

**Angles of Arrival PFD**

(iv) 0-2° (dBW/m<sup>2</sup>/BW)

(v) 2-5° (dBW/m<sup>2</sup>/BW)

(vi) 5-15° (dBW/m<sup>2</sup>/BW)

(vii) 15-20° (dBW/m²/BW)

(viii) 20-25° (dBW/m²/BW)

(ix) 25-90° (dBW/m²/BW)

**Geographic Region PFD**

(x) Southeastern Region (dBW/m²/BW)

(xi) Northeastern Region (dBW/m²/BW)

(xii) Western Region (dBW/m²/BW)

(xiii) Other Region (dBW/m²/BW)

**Energy Dispersal Bandwidth**

(xiv) Energy Dispersal Bandwidth (kHz)

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< ≡ Attachments New record ... [Schedule S Instructions](#) [Save Record](#)

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**Attachments**

Beam ID  ⓘ  
Use this field to link the attachment directly to a beam. (Optional for all other attachments.)

(i) Document Type

(ii) If Document Type is "Other", provide short description ⓘ

Direction of Transmission  (iii) File Name [Click to add...](#)

[Schedule S Instructions](#) [Save Record](#)