



312 File Number: **SATLOI2018091000069**

Filing Description

Question	Response
Description	Planned Hiberband Non-voice MSS LEO System

**Satellite
Information**

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

**Operating
Frequency
Bands (2)**

Nature of service	Description	Frequency Band(s)	Mode Type
Other Satellite Service (please specify)	Non-Voice, Non-Geostationary Mobile-Satellite Service	399.9 MHz -400.05 MHz	Receive
Other Satellite Service (please specify)	Non-Voice, Non-Geostationary Mobile-Satellite Service	400.15 MHz -401.0 MHz	Transmit

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	24
Orbit Epoch Date	10/01/2018
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 2:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	22.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees

Active Service Arc End Angle with respect to Ascending Node 0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 3:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	45.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 4:

Question	Response
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Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	67.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 5:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	90.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 6:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	112.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 7:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees

Right Ascension of Ascending Node	135.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Orbital Plane 8:

Question	Response
Number of Satellites in Plane	3
Inclination Angle	97.8 degrees
Right Ascension of Ascending Node	157.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5792.0 seconds
Apogee	600.0 km
Perigee	600.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	0.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	240.0
2	120.0
3	0.0

Receiving Beams 1:

Question	Response
Beam ID	1
Receive Beam Frequency	399.9 MHz -400.05 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	4.6 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-27.4 dB/K
Min. Saturation Flux Density	-18.3 dBW/m ²
Max. Saturation Flux Density	0.0 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	Global

**Receiving
Channels (1)**

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
1	0.15	399.975	Service Link

Transmitting Beams 1:

Question	Response
Beam ID	2
Transmit Beam Frequency	400.15 MHz -401.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	4.6 dBi
Antenna Pointing Error	1.0 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-38.6 dBW/Hz
Max. Transmit EIRP	11.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5° (dBW/m ² /BW):	* 5° - 10° (dBW/m ² /BW):	* 10° - 15° (dBW/m ² /BW):	* 15° - 20° (dBW/m ² /BW):	* 20° - 25° (dBW/m ² /BW):	* 25° - 90° (dBW/m ² /BW):
4.0 kHz	-125.9	-125.9	-126.0	-126.0	-126.1	-126.1

Transmitting Channels (1)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
BD	0.1	400.575	Service Link

Certification Questions

Question	Response
<p>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?</p>	<p>N/A</p>
<p>Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?</p>	<p>Yes</p>
<p>Are the cessation of emissions requirements of 25.207 met?</p>	<p>Yes</p>
<p>Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?</p>	
<p>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?</p>	<p>N/A</p>
<p>Are the applicable full-frequency-reuse requirements of 25.210 met?</p>	
<p>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)?</p>	

Attachments

Information not provided.