



312 File Number: **SATAPL2021121300190**

Filing Description

Question	Response
Description	Myriota System Update VHF

Satellite
Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	Myriota
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	148.0 MHz -150.05 MHz	Receive
Other Satellite Service (please specify)	Non-Voice, Non-Geostationary Mobile-Satellite Service	137.0 MHz -138.0 MHz	Transmit

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	36
Orbit Epoch Date	12/30/2021
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	6
Inclination Angle	97.5471 degrees
Right Ascension of Ascending Node	85.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5700.0 seconds
Apogee	550.0 km
Perigee	550.0 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	270.0
2	210.0
3	150.0
4	90.0
5	30.0
6	330.0

Orbital Plane 2:

Question	Response
Number of Satellites in Plane	6
Inclination Angle	97.5471 degrees
Right Ascension of Ascending Node	115.0 degrees

Argument of Perigee	0.0 degrees
Orbital Period	5700.0 seconds
Apogee	550.0 km
Perigee	550.0 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	0.0
2	60.0
3	120.0
4	180.0
5	240.0
6	300.0

Orbital Plane 3:

Question	Response
Number of Satellites in Plane	6
Inclination Angle	97.5471 degrees
Right Ascension of Ascending Node	145.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5700.0 seconds
Apogee	550.0 km
Perigee	550.0 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
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Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	330.0
2	270.0
3	210.0
4	150.0
5	90.0
6	30.0

Orbital Plane 4:

Question	Response
Number of Satellites in Plane	6
Inclination Angle	97.5471 degrees
Right Ascension of Ascending Node	175.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5700.0 seconds
Apogee	550.0 km
Perigee	550.0 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	0.0

2	300.0
3	240.0
4	180.0
5	120.0
6	60.0

Orbital Plane 5:

Question	Response
Number of Satellites in Plane	6
Inclination Angle	97.5471 degrees
Right Ascension of Ascending Node	205.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5700.0 seconds
Apogee	550.0 km
Perigee	550.0 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	210.0
2	270.0
3	330.0
4	30.0
5	90.0
6	150.0

Orbital Plane 6:

Question	Response
Number of Satellites in Plane	6
Inclination Angle	97.5471 degrees
Right Ascension of Ascending Node	235.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	5700.0 seconds
Apogee	550.0 km
Perigee	550.0 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	180.0
2	120.0
3	60.0
4	0.0
5	300.0
6	240.0

Receiving Beams 1:

Question	Response
Beam ID	UL4
Receive Beam Frequency	148.0 MHz -150.05 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.15 dBi
Antenna Pointing Error	2.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
G/T at Max. Gain Point	-30.0 dB/K
Min. Saturation Flux Density	-0.01 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 2:

Question	Response
Beam ID	UL3
Receive Beam Frequency	148.0 MHz -150.05 MHz
Beam Type	Fixed
Polarization	H
Peak Gain	2.15 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	-30.0 dB/K
Min. Saturation Flux Density	-0.1 dBW/m2
Max. Saturation Flux Density	0.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Channels (21)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
VU13	0.1	149.25	Service Link
VU12	0.1	149.15	Service Link
VU11	0.1	149.05	Service Link
VU5	0.1	148.45	Service Link
VU6	0.1	148.55	Service Link
VU10	0.1	148.95	Service Link
VU7	0.1	148.65	Service Link
VU8	0.1	148.75	Service Link
VU9	0.1	148.85	Service Link
VU20	0.1	149.95	Service Link
VU19	0.1	149.85	Service Link
VU18	0.1	149.75	Service Link
VU17	0.1	149.65	Service Link
VU16	0.1	149.55	Service Link
VU15	0.1	149.45	Service Link
VU14	0.1	149.35	Service Link
VU4	0.1	148.35	Service Link
VU1	0.1	148.05	Service Link
VU2	0.1	148.15	Service Link
VU21	0.05	150.025	Service Link
VU3	0.1	148.25	Service Link

Transmitting
Beams 1:

Question	Response
Beam ID	DL4
Transmit Beam Frequency	137.0 MHz -138.0 MHz
Beam Type	Fixed
Polarization	V
Peak Gain	2.15 dBi
Antenna Pointing Error	2.0 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	90.0 degrees
Max. Transmit EIRP Density	-35.3 dBW/Hz
Max. Transmit EIRP	14.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
* BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
4.0 kHz	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0

Transmitting
Beams 2:

Question	Response
Beam ID	DL3
Transmit Beam Frequency	137.0 MHz -138.0 MHz
Beam Type	Fixed
Polarization	H

Peak Gain	2.15 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	-35.3 dBW/Hz
Max. Transmit EIRP	14.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* (dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):	(dBW/m ² /BW):
4.0 kHz	-125.0	-125.0	-125.0	-125.0	-125.0	-125.0

Transmitting
Channels (10)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
VD1	0.1	137.05	Service Link
VD6	0.1	137.55	Service Link
VD9	0.1	137.85	Service Link
VD7	0.1	137.65	Service Link
VD10	0.1	137.95	Service Link
VD8	0.1	137.75	Service Link
VD5	0.1	137.45	Service Link
VD4	0.1	137.35	Service Link
VD2	0.1	137.15	Service Link
VD3	0.1	137.25	Service Link

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

Information not provided.