Approved by OMB 3060-0678
Estimated Burden: up to 80 hours
April 2016

Federal Communications Commission

312 File Number: **SATAPL2020052600060**

Filing Description

Question	Response
Description	Schedule S for Pleiades Canadian NGSO satellite system

Satellite Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	Pleiades
Estimated Lifetime of Satellite(s) From Date of Launch	15 Years
Will the space station(s) operate on a Common Carrier basis?	No

Operating Frequency Bands (7)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		17800.0 MHz -18100.0 MHz	Receive
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		29500.0 MHz -30000.0 MHz	Receive
Fixed-Satellite Service		27500.0 MHz -29100.0 MHz	Receive
Fixed-Satellite Service		19700.0 MHz -20200.0 MHz	Transmit
Fixed-Satellite Service		11200.0 MHz -12700.0 MHz	Transmit
Fixed-Satellite Service		18100.0 MHz -19300.0 MHz	Transmit

Orbital Information For Non-Geostationary Satellites

Question	Response
Total Number of Satellites in the active constellation	15
Orbit Epoch Date	01/01/2020
Celestrial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	306.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0

Orbital Plane 2:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	18.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees

Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	144.0

Orbital Plane 3:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	90.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	288.0

Orbital Plane 4:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	162.5 degrees

Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	72.0

Orbital Plane 5:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	234.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date

1	216.0

Orbital Plane 6:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	42.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	252.0

Orbital Plane 7:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	114.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km

Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	36.0

Orbital Plane 8:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	186.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	180.0

Orbital Plane 9:

Question	Response
Number of Satellites in Plane	1

Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	258.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	324.0

Orbital Plane 10:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	330.5 degrees
Argument of Perigee	270.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	108.0

Orbital Plane 11:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	286.5 degrees
Argument of Perigee	90.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0

Orbital Plane 12:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	358.5 degrees
Argument of Perigee	90.0 degrees
Orbital Period	28800.0 seconds

Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	144.0

Orbital Plane 13:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	70.5 degrees
Argument of Perigee	90.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	288.0

Orbital Plane 14:

Question	Response

Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	142.5 degrees
Argument of Perigee	90.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	72.0

Orbital Plane 15:

Question	Response
Number of Satellites in Plane	1
Inclination Angle	63.435 degrees
Right Ascension of Ascending Node	214.5 degrees
Argument of Perigee	90.0 degrees
Orbital Period	28800.0 seconds
Apogee	26679.0 km
Perigee	1125.0 km
Active Service Arc Begin Angle with respect to Ascending Node	43.0 degrees
Active Service Arc End Angle with respect to Ascending Node	43.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	216.0

Receiving Beams 1:

Question	Response
Beam ID	SR01
Receive Beam Frequency	14000.0 MHz -14125.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #01. Also applies to #21, 24, 27, 30, 33, 36, 66, 71, 76, 81, 86, 91, 94, 100, 106, 112, 118, 124, 128, 135, 142, 149, 156, 163, 175, 183, 191, 199, 207, 215, 221, 230, 239, 248, 257, 266, 280, 290, 300, 310, 320, 330

Receiving Beams 2:

Question	Response
Beam ID	SR02
Receive Beam Frequency	14000.0 MHz -14125.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #02. Also applies to #12, 15, 23, 34, 39, 49, 54, 60 70, 73, 79, 87, 96, 99, 110, 119, 127, 130, 141, 146, 154, 157, 166, 170, 177, 182, 188, 197, 208, 211, 223, 229, 236, 243, 246, 253, 258, 269, 275, 289, 297, 308, 314, 326

Receiving Beams 3:

Question	Response
Beam ID	SR03
Receive Beam Frequency	14125.0 MHz -14250.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #03. Also applies to #14, 17, 26, 37, 40, 43, 53, 58, 62, 75, 78, 84, 97, 102, 105, 116, 125, 131, 137, 148, 153, 161, 164, 171, 178, 185, 190, 196, 205, 216, 224, 232, 238, 245, 252, 255, 262, 267, 276, 285, 299, 307, 318, 324

Receiving Beams 4:

Question	Response
Beam ID	SR04
Receive Beam Frequency	14125.0 MHz -14250.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #04. Also applies to #16, 19, 22, 29, 38, 44, 47, 57, 67, 80, 83, 89, 95, 103, 108, 111, 122, 129, 138, 144, 155, 160, 168, 176, 179, 186, 193, 198, 204, 213, 222, 233, 241, 247, 254, 261, 264, 271, 274, 286, 295, 309, 317, 328

Receiving Beams 5:

Question	Response
Beam ID	SR05
Receive Beam Frequency	14250.0 MHz -14375.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	BeamPack beam #05. Also applies to #18, 25, 32, 42, 48, 51, 61, 64, 72, 85, 88, 92, 101, 109, 114, 117, 133, 136, 145, 151, 162, 167, 173, 184, 187, 194, 201, 206, 212, 219, 226, 231, 242, 250, 256, 263, 270, 278, 284, 296, 305, 319, 327

Receiving Beams 6:

Question	Response
Beam ID	SR06
Receive Beam Frequency	14250.0 MHz -14375.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	BeamPack beam #06. Also applies to #8, 11, 28, 35, 41, 46, 52, 55, 63, 69, 77, 90, 98, 107, 115, 120, 123, 132, 140, 143, 152, 158, 169, 172, 181, 192, 202, 209, 214, 218, 225, 228, 235, 240, 251, 259, 265, 277, 288, 294, 306, 315, 329

Receiving Beams 7:

Question	Response
Beam ID	SR07
Receive Beam Frequency	14375.0 MHz -14500.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2

Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #07. Also applies to #10, 13, 20, 31, 45, 50, 56, 59, 65, 68, 74, 82, 93, 104, 113, 121, 126, 134, 139, 147, 150, 159, 165, 174, 180, 189, 200, 203, 210, 217, 220, 227, 234, 237, 244, 247, 260, 268, 279, 227, 287, 298, 304, 316, 325

Receiving Beams 8:

Question	Response
Beam ID	SR11
Receive Beam Frequency	17800.0 MHz -17875.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2

Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #01. Also applies to #21, 24, 27, 30, , 33, 36, 66, 71, 76, 81, 86, 91, 94, 100, 106, 112, 118, 124, 128, 135, 142, 149, 156, 163, 175, 183, 191, 199, 207, 215, 221, 230, 239, 248, 257, 266, 280, 290, 300, 310, 320, 330

Receiving Beams 9:

Question	Response
Beam ID	SR12
Receive Beam Frequency	17800.0 MHz -17875.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K

Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #02. Also applies to #12, 15, 23, 34, 39, 49, 54, 60 70, 73, 79, 87, 96, 99, 110, 119, 127, 130, 141, 146, 154, 157, 166, 170, 177, 182, 188, 197, 208, 211, 223, 229, 236, 243, 246, 253, 258, 269, 275, 289, 297, 308, 314, 326

Receiving Beams 10:

Question	Response
Beam ID	SR13
Receive Beam Frequency	17875.0 MHz -17950.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #03. Also applies to #14, 17, 26, 37, 40, 43, 53, 58, 62, 75, 78, 84, 97, 102, 105, 116, 125, 131, 137, 148, 153, 161, 164, 171, 178, 185, 190, 196, 205, 216, 224, 232, 238, 245, 252, 255, 262, 267, 276, 285, 299, 307, 318, 324

Receiving Beams 11:

Question	Response
Beam ID	SR14
Receive Beam Frequency	17875.0 MHz -17950.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #04. Also applies to #16, 19, 22, 29, 38, 44, 47, 57, 67, 80, 83, 89, 95, 103, 108, 111, 122, 129, 138, 144, 155, 160, 168, 176, 179, 186, 193, 198, 204, 213, 222, 233, 241, 247, 254, 261, 264, 271, 274, 286, 295, 309, 317, 328

Receiving Beams 12:

Question	Response
Beam ID	SR15
Receive Beam Frequency	17950.0 MHz -18025.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	2.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #05. Also applies to #18, 25, 32, 42, 48, 51, 61, 64, 72, 85, 88, 92, 101, 109, 114, 117, 133, 136, 145, 151, 162, 167, 173, 184, 187, 194, 201, 206, 212, 219, 226, 231, 242, 250, 256, 263, 270, 278, 284, 296, 305, 319, 327

Receiving Beams 13:

Question	Response
Beam ID	SR16
Receive Beam Frequency	17950.0 MHz -18025.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #06. Also applies to #8, 11, 28, 35, 41, 46, 52, 55, 63, 69, 77, 90, 98, 107, 115, 120, 123, 132, 140, 143, 152, 158, 169, 172, 181, 192, 202, 209, 214, 218, 225, 228, 235, 240, 251, 259, 265, 277, 288, 294, 306, 315, 329

Receiving Beams 14:

Question	Response
Beam ID	SR17
Receive Beam Frequency	18025.0 MHz -18100.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees

Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #07. Also applies to #10, 13, 20, 31, 45, 50, 56, 59, 65, 68, 74, 82, 93, 104, 113, 121, 126, 134, 139, 147, 150, 159, 165, 174, 180, 189, 200, 203, 210, 217, 220, 227, 234, 237, 244, 247, 260, 268, 279, 227, 287, 298, 304, 316, 325

Receiving Beams 15:

Question	Response
Beam ID	OR18
Receive Beam Frequency	18025.0 MHz -18100.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.1 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	2.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Mappable to any spot in beampack covering a Gateway, used for orderwire and payload monitor and telemetry

Receiving Beams 16:

Question	Response
Beam ID	SR21
Receive Beam Frequency	14375.0 MHz -14390.625 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #01. Also applies to #21, 24, 27, 30, , 33, 36, 66, 71, 76, 81, 86, 91, 94, 100, 106, 112, 118, 124, 128, 135, 142, 149, 156, 163, 175, 183, 191, 199, 207, 215, 221, 230, 239, 248, 257, 266, 280, 290, 300, 310, 320, 330

Receiving Beams 17:

Question	Response
Beam ID	SR22
Receive Beam Frequency	14390.625 MHz -14406.25 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.1 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #02. Also applies to #12, 15, 23, 34, 39, 49, 54, 60 70, 73, 79, 87, 96, 99, 110, 119, 127, 130, 141, 146, 154, 157, 166, 170, 177, 182, 188, 197, 208, 211, 223, 229, 236, 243, 246, 253, 258, 269, 275, 289, 297, 308, 314, 326

Receiving Beams 18:

Question	Response
Beam ID	SR23
Receive Beam Frequency	14406.25 MHz -14421.875 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees

Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #03. Also applies to #14, 17, 26, 37, 40, 43, 53, 58, 62, 75, 78, 84, 97, 102, 105, 116, 125, 131, 137, 148, 153, 161, 164, 171, 178, 185, 190, 196, 205, 216, 224, 232, 238, 245, 252, 255, 262, 267, 276, 285, 299, 307, 318, 324

Receiving Beams 19:

Question	Response
Beam ID	SR24
Receive Beam Frequency	14421.875 MHz -14437.5 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi

Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #04. Also applies to #16, 19, 22, 29, 38, 44, 47, 57, 67, 80, 83, 89, 95, 103, 108, 111, 122, 129, 138, 144, 155, 160, 168, 176, 179, 186, 193, 198, 204, 213, 222, 233, 241, 247, 254, 261, 264, 271, 274, 286, 295, 309, 317, 328

Receiving Beams 20:

Question	Response
Beam ID	SR25
Receive Beam Frequency	14437.5 MHz -14453.125 MHz
Beam Type	Fixed
Polarization	LHCP

Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #05. Also applies to #18, 25, 32, 42, 48, 51, 61, 64, 72, 85, 88, 92, 101, 109, 114, 117, 133, 136, 145, 151, 162, 167, 173, 184, 187, 194, 201, 206, 212, 219, 226, 231, 242, 250, 256, 263, 270, 278, 284, 296, 305, 319, 327

Receiving Beams 21:

Question	Response
Beam ID	SR26
Receive Beam Frequency	14453.125 MHz -14468.75 MHz
Beam Type	Fixed

Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #06. Also applies to #8, 11, 28, 35, 41, 46, 52, 55, 63, 69, 77, 90, 98, 107, 115, 120, 123, 132, 140, 143, 152, 158, 169, 172, 181, 192, 202, 209, 214, 218, 225, 228, 235, 240, 251, 259, 265, 277, 288, 294, 306, 315, 329

Receiving Beams 22:

Question	Response
Beam ID	SR27
Receive Beam Frequency	14468.75 MHz -14484.375 MHz
Beam Type	Fixed

Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #07. Also applies to #10, 13, 20, 31, 45, 50, 56, 59, 65, 68, 74, 82, 93, 104, 113, 121, 126, 134, 139, 147, 150, 159, 165, 174, 180, 189, 200, 203, 210, 217, 220, 227, 234, 237, 244, 247, 260, 268, 279, 227, 287, 298, 304, 316, 325

Receiving Beams 23:

Question	Response
Beam ID	OR28
Receive Beam Frequency	14484.375 MHz -14500.0 MHz
Beam Type	Fixed

Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	16.2 dB/K
Min. Saturation Flux Density	-125.0 dBW/m2
Max. Saturation Flux Density	-105.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Mappable to any spot in beampack covering a Gateway, used for orderwire and payload monitor and telemetry

Receiving Beams 24:

Question	Response
Beam ID	FR31
Receive Beam Frequency	27500.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	54.5 dBi
Antenna Pointing Error	0.1 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	26.7 dB/K
Min. Saturation Flux Density	-115.0 dBW/m2
Max. Saturation Flux Density	-95.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Receiving Beams 25:

Question	Response
Beam ID	FR32
Receive Beam Frequency	27500.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	54.5 dBi
Antenna Pointing Error	0.1 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	26.7 dB/K
Min. Saturation Flux Density	-115.0 dBW/m2
Max. Saturation Flux Density	-95.0 dBW/m2

Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Receiving Beams 26:

Question	Response
Beam ID	FR33
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	54.5 dBi
Antenna Pointing Error	0.1 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	26.7 dB/K
Min. Saturation Flux Density	-215.0 dBW/m2
Max. Saturation Flux Density	-95.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Receiving Beams 27:

Question	Response
Beam ID	FR34

Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	54.5 dBi
Antenna Pointing Error	0.1 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	26.7 dB/K
Min. Saturation Flux Density	-115.0 dBW/m2
Max. Saturation Flux Density	-95.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Receiving Channels (126)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
RU32	25.0	18087.5	Service Link
RU31	25.0	18062.5	Service Link
RU30	25.0	18037.5	Service Link
RU29	25.0	18012.5	Service Link
RU28	25.0	17987.5	Service Link
RU27	25.0	17962.5	Service Link
RU26	25.0	17937.5	Service Link
RU25	25.0	17912.5	Service Link
RU24	25.0	17887.5	Service Link
RU23	25.0	17862.5	Service Link
RU22	25.0	17837.5	Service Link
RU21	25.0	17812.5	Service Link
RU20	25.0	14487.5	TT&C
RU19	25.0	14462.5	TT&C
RU18	25.0	14437.5	Service Link
RU17	25.0	14412.5	Service Link
RU16	25.0	14387.5	Service Link
RU15	25.0	14362.5	Service Link
RU14	25.0	14337.5	Service Link
RU13	25.0	14312.5	Service Link
RU12	25.0	14287.5	Service Link
RU11	25.0	14262.5	Service Link
RU10	25.0	14237.5	Service Link
RU09	25.0	14212.5	Service Link

RU08	25.0	14187.5	Service Link
RU07	25.0	14162.5	Service Link
RU06	25.0	14137.5	Service Link
RU05	25.0	14112.5	Service Link
RU04	25.0	14087.5	Service Link
RU03	25.0	14062.5	Service Link
RU02	25.0	14037.5	Service Link
RU01	25.0	14012.5	Service Link
RT30	5.0	29997.5	TT&C
RT28	5.0	27502.5	TT&C
RS07	15.625	14476.563	Service Link
RS06	15.625	14460.938	Service Link
RS05	15.625	14445.313	Service Link
RS04	15.625	14429.688	Service Link
RS03	15.625	14414.063	Service Link
RS02	15.625	14398.438	Service Link
RS01	15.625	14382.813	Service Link
RT14	15.62	14492.185	TT&C
RG20	20.0	29985.0	Feeder Link
RG19	25.0	29962.5	Feeder Link
RG18	25.0	29937.5	Feeder Link
RG17	25.0	29912.5	Feeder Link
RG16	25.0	29887.5	Feeder Link
RG15	25.0	29862.5	Feeder Link
RG14	25.0	29837.5	Feeder Link
RG13	25.0	29812.5	Feeder Link

RG12	25.0	29787.5	Feeder Link
RG11	25.0	29762.5	Feeder Link
RG10	25.0	29737.5	Feeder Link
RG09	25.0	29712.5	Feeder Link
RG08	25.0	29687.5	Feeder Link
RG07	25.0	29662.5	Feeder Link
RG06	25.0	29637.5	Feeder Link
RG05	25.0	29612.5	Feeder Link
RG04	25.0	29587.5	Feeder Link
RG03	25.0	29562.5	Feeder Link
RG02	25.0	29537.5	Feeder Link
RG01	25.0	29512.5	Feeder Link
RF64	25.0	29087.5	Feeder Link
RF63	25.0	29062.5	Feeder Link
RF62	25.0	29037.5	Feeder Link
RF61	25.0	29012.5	Feeder Link
RF60	25.0	28987.5	Feeder Link
RF59	25.0	28962.5	Feeder Link
RF58	25.0	28937.5	Feeder Link
RF57	25.0	28912.5	Feeder Link
RF56	25.0	28887.5	Feeder Link
RF55	25.0	28862.5	Feeder Link
RF54	25.0	28837.5	Feeder Link
RF53	25.0	28812.5	Feeder Link
RF52	25.0	28787.5	Feeder Link
RF51	25.0	28762.5	Feeder Link

RF50	25.0	28737.5	Feeder Link
RF49	25.0	28712.5	Feeder Link
RF48	25.0	28687.5	Feeder Link
RF47	25.0	28662.5	Feeder Link
RF46	25.0	28637.5	Feeder Link
RF45	25.0	28612.5	Feeder Link
RF44	25.0	28587.5	Feeder Link
RF43	25.0	28562.5	Feeder Link
RF42	25.0	28537.5	Feeder Link
RF41	25.0	28512.5	Service Link
RF40	25.0	28487.5	Feeder Link
RF39	25.0	28462.5	Feeder Link
RF38	25.0	28437.5	Feeder Link
RF37	25.0	28412.5	Feeder Link
RF36	25.0	28387.5	Feeder Link
RF35	25.0	28362.5	Feeder Link
RF34	25.0	28337.5	Feeder Link
RF33	25.0	28312.5	Feeder Link
RF32	25.0	28287.5	Feeder Link
RF31	25.0	28262.5	Feeder Link
RF30	25.0	28237.5	Feeder Link
RF29	25.0	28212.5	Feeder Link
RF28	25.0	28187.5	Feeder Link
RF27	25.0	28162.5	Feeder Link
RF26	25.0	28137.5	Feeder Link
RF25	25.0	28112.5	Feeder Link

RF24	25.0	28087.5	Feeder Link
RF23	25.0	28062.5	Feeder Link
RF22	25.0	28037.5	Feeder Link
RF21	25.0	28012.5	Feeder Link
RF20	25.0	27987.5	Feeder Link
RF19	25.0	27962.5	Feeder Link
RF18	25.0	27937.5	Feeder Link
RF17	25.0	27912.5	Feeder Link
RF16	25.0	27887.5	Feeder Link
RF15	25.0	27862.5	Feeder Link
RF14	25.0	27837.5	Feeder Link
RF13	25.0	27812.5	Feeder Link
RF12	25.0	27787.5	Feeder Link
RF11	25.0	27762.5	Feeder Link
RF10	25.0	27737.5	Feeder Link
RF09	25.0	27712.5	Feeder Link
RF08	25.0	27687.5	Feeder Link
RF07	25.0	27662.5	Feeder Link
RF06	25.0	27637.5	Feeder Link
RF05	25.0	27612.5	Feeder Link
RF04	25.0	27587.5	Service Link
RF03	25.0	27562.5	Feeder Link
RF02	25.0	27537.5	Feeder Link
RF01	20.0	27515.0	Feeder Link

Transmitting Beams 1:

Question	Response
Beam ID	ST01
Transmit Beam Frequency	11200.0 MHz -11575.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	59.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #01. Also applies to #21, 24, 27, 30, , 33, 36, 66, 71, 76, 81, 86, 91, 94, 100, 106, 112, 118, 124, 128, 135, 142, 149, 156, 163, 175, 183, 191, 199, 207, 215, 221, 230, 239, 248, 257, 266, 280, 290, 300, 310, 320, 330.

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-129.5	-126.5	-126.1	-126.1	-126.1	-126.1

Transmitting Beams 2:

Question	Response
Beam ID	ST02
Transmit Beam Frequency	11200.0 MHz -11575.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	59.6 dBW

Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #02. Also applies to #12, 15, 23, 34, 39, 49, 54, 60 70, 73, 79, 87, 96, 99, 110, 119, 127, 130, 141, 146, 154, 157, 166, 170, 177, 182, 188, 197, 208, 211, 223, 229, 236, 243, 246, 253, 258, 269, 275, 289, 297, 308, 314, 326

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-129.5	-126.5	-126.1	-126.1	-126.1	-126.1

Transmitting Beams 3:

Question	Response
Beam ID	ST03
Transmit Beam Frequency	11575.0 MHz -11950.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	59.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #03. Also applies to #14, 17, 26, 37, 40, 43, 53, 58, 62, 75, 78, 84, 97, 102, 105, 116, 125, 131, 137, 148, 153, 161, 164, 171, 178, 185, 190, 196, 205, 216, 224, 232, 238, 245, 252, 255, 262, 267, 276, 285, 299, 307, 318, 324

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-129.5	-126.5	-126.1	-126.1	-126.1	-126.1

Transmitting Beams 4:

Question	Response
Beam ID	ST04
Transmit Beam Frequency	11575.0 MHz -11950.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi

Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	59.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #04. Also applies to #16, 19, 22, 29, 38, 44, 47, 57, 67, 80, 83, 89, 95, 103, 108, 111, 122, 129, 138, 144, 155, 160, 168, 176, 179, 186, 193, 198, 204, 213, 222, 233, 241, 247, 254, 261, 264, 271, 274, 286, 295, 309, 317, 328

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-129.5	-126.5	-126.1	-126.1	-126.1	-126.1

Transmitting Beams 5:

Question	Response
Beam ID	ST05

Transmit Beam Frequency	11950.0 MHz -12325.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	59.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #05. Also applies to #18, 25, 32, 42, 48, 51, 61, 64, 72, 85, 88, 92, 101, 109, 114, 117, 133, 136, 145, 151, 162, 167, 173, 184, 187, 194, 201, 206, 212, 219, 226, 231, 242, 250, 256, 263, 270, 278, 284, 296, 305, 319, 327

Max. Power Flux Density

* BW:	* 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):

1.0 MHz	-129.5	-126.5	-126.1	-126.1	-126.1	-126.1

Transmitting Beams 6:

Question	Response
Beam ID	ST06
Transmit Beam Frequency	11950.0 MHz -12325.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	59.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #06. Also applies to #8, 11, 28, 35, 41, 46, 52, 55, 63, 69, 77, 90, 98, 107, 115, 120, 123, 132, 140, 143, 152, 158, 169, 172, 181, 192, 202, 209, 214, 218, 225, 228, 235, 240, 251, 259, 265, 277, 288, 294, 306, 315, 329

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-129.5	-126.5	-126.1	-126.1	-126.1	-126.1

Transmitting Beams 7:

Question	Response
Beam ID	ST07
Transmit Beam Frequency	12325.0 MHz -12700.0 MHz
Beam Type	Fixed
Polarization	LHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz

Max. Transmit EIRP	59.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #07. Also applies to #10, 13, 20, 31, 45, 50, 56, 59, 65, 68, 74, 82, 93, 104, 113, 121, 126, 134, 139, 147, 150, 159, 165, 174, 180, 189, 200, 203, 210, 217, 220, 227, 234, 237, 244, 247, 260, 268, 279, 227, 287, 298, 304, 316, 325

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 8:

Question	Response
Beam ID	ST11
Transmit Beam Frequency	12325.0 MHz -12371.875 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #01. Also applies to #21, 24, 27, 30, , 33, 36, 66, 71, 76, 81, 86, 91, 94, 100, 106, 112, 118, 124, 128, 135, 142, 149, 156, 163, 175, 183, 191, 199, 207, 215, 221, 230, 239, 248, 257, 266, 280, 290, 300, 310, 320, 330

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 9:

Question	Response
Beam ID	ST12
Transmit Beam Frequency	12371.875 MHz -12418.75 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi

Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #02. Also applies to #12, 15, 23, 34, 39, 49, 54, 60 70, 73, 79, 87, 96, 99, 110, 119, 127, 130, 141, 146, 154, 157, 166, 170, 177, 182, 188, 197, 208, 211, 223, 229, 236, 243, 246, 253, 258, 269, 275, 289, 297, 308, 314, 326

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 10:

Question	Response
Beam ID	ST13

Transmit Beam Frequency	12418.75 MHz -12465.625 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #03. Also applies to #14, 17, 26, 37, 40, 43, 53, 58, 62, 75, 78, 84, 97, 102, 105, 116, 125, 131, 137, 148, 153, 161, 164, 171, 178, 185, 190, 196, 205, 216, 224, 232, 238, 245, 252, 255, 262, 267, 276, 285, 299, 307, 318, 324

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):

1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 11:

Question	Response
Beam ID	ST14
Transmit Beam Frequency	12465.625 MHz -12512.5 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C

Service Area Description	BeamPack beam #04. Also applies to #16, 19, 22, 29, 38, 44, 47, 57, 67, 80, 83, 89, 95, 103, 108, 111, 122, 129, 138, 144, 155, 160, 168, 176, 179, 186, 193, 198, 204, 213, 222, 233, 241, 247, 254, 261, 264, 271, 274, 286, 295, 309, 317, 328

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 12:

Question	Response
Beam ID	ST15
Transmit Beam Frequency	12512.5 MHz -12559.375 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #05. Also applies to #18, 25, 32, 42, 48, 51, 61, 64, 72, 85, 88, 92, 101, 109, 114, 117, 133, 136, 145, 151, 162, 167, 173, 184, 187, 194, 201, 206, 212, 219, 226, 231, 242, 250, 256, 263, 270, 278, 284, 296, 305, 319, 327

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 13:

Question	Response
Beam ID	ST16
Transmit Beam Frequency	12559.375 MHz -12606.25 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #06. Also applies to #8, 11, 28, 35, 41, 46, 52, 55, 63, 69, 77, 90, 98, 107, 115, 120, 123, 132, 140, 143, 152, 158, 169, 172, 181, 192, 202, 209, 214, 218, 225, 228, 235, 240, 251, 259, 265, 277, 288, 294, 306, 315, 329

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 14:

Question	Response
Beam ID	ST17
Transmit Beam Frequency	12606.25 MHz -12643.125 MHz
Beam Type	Fixed
Polarization	RHCP

Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	51.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	BeamPack beam #07. Also applies to #10, 13, 20, 31, 45, 50, 56, 59, 65, 68, 74, 82, 93, 104, 113, 121, 126, 134, 139, 147, 150, 159, 165, 174, 180, 189, 200, 203, 210, 217, 220, 227, 234, 237, 244, 247, 260, 268, 279, 227, 287, 298, 304, 316, 325

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting

Beams 15:

Question	Response
Beam ID	OT18
Transmit Beam Frequency	12653.125 MHz -12700.0 MHz
Beam Type	Fixed
Polarization	RHCP
Peak Gain	44.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	2.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-24.7 dBW/Hz
Max. Transmit EIRP	46.2 dBW
Co- or Cross Polar Mode	C
Service Area Description	Mappable to any spot in beampack covering a Gateway, used for orderwire and payload command

Max. Power Flux Density

* BW:	* 0° - 1° (dbW/m^2 /BW):	* 1° - 2° (dbW/m^2 /BW):	* 2° - 3° (dbW/m^2 /BW):	* 3° - 4° (dbW/m^2 /BW):	* 4° - 5° (dbW/m^2 /BW):
1.0 MHz	-132.6	-132.6	-131.1	-129.7	-129.5

Transmitting Beams 16:

Question	Response
Beam ID	FT51
Transmit Beam Frequency	18100.0 MHz -19300.0 MHz

Beam Type	Steerable
Polarization	RHCP
Peak Gain	51.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-39.5 dBW/Hz
Max. Transmit EIRP	50.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-147.5	-141.5	-140.6	-140.6	-140.6	-140.6

Transmitting Beams 17:

Question	Response
Beam ID	FT52
Transmit Beam Frequency	18100.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP

Peak Gain	51.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-39.5 dBW/Hz
Max. Transmit EIRP	50.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-147.5	-141.5	-140.6	-140.6	-140.6	-140.6

Transmitting Beams 18:

Question	Response
Beam ID	FT53
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	51.0 dBi
Antenna Pointing Error	0.1 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-39.5 dBW/Hz
Max. Transmit EIRP	46.9 dBW
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-147.5	-141.5	-140.6	-140.6	-140.6	-140.6

Transmitting Beams 19:

Question	Response
Beam ID	FT54
Transmit Beam Frequency	19700.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	51.0 dBi
Antenna Pointing Error	0.1 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-39.5 dBW/Hz
Max. Transmit EIRP	46.9 dBW
Co- or Cross Polar Mode	C
Service Area Description	Beam electronically steered onto Gateway Earth Station. Duplicated up to 12 times to 12 widely separated Gateways

Max. Power Flux Density

* BW:	* 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):
1.0 MHz	-147.5	-141.5	-140.6	-140.6	-140.6	-140.6

Transmitting Channels (130)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
TT21	5.0	20197.5	TT&C
TT18	5.0	18102.5	TT&C
TF84	20.0	20185.0	Feeder Link
TF83	25.0	20162.5	Feeder Link
TF82	25.0	20137.5	Feeder Link
TF81	25.0	20112.5	Feeder Link
TF80	25.0	20087.5	Feeder Link
TF79	25.0	20062.5	Feeder Link
TF78	25.0	20037.5	Feeder Link
TF77	25.0	20012.5	Feeder Link
TF76	25.0	19987.5	Feeder Link
TF75	25.0	19962.5	Feeder Link
TF74	25.0	19937.5	Feeder Link
TF73	25.0	19912.5	Feeder Link
TF72	25.0	19887.5	Feeder Link
TF71	25.0	19862.5	Feeder Link
TF70	25.0	19837.5	Feeder Link
TU59	25.0	12662.5	Service Link
TF69	25.0	19812.5	Feeder Link
TF68	25.0	19787.5	Feeder Link
TF67	25.0	19762.5	Feeder Link
TF66	25.0	19737.5	Feeder Link
TF65	25.0	19712.5	Feeder Link
TF48	25.0	19287.5	Feeder Link

TF47	25.0	19262.5	Feeder Link
TF46	25.0	19237.5	Feeder Link
TF45	25.0	19212.5	Feeder Link
TF44	25.0	19187.5	Feeder Link
TF43	25.0	19162.5	Feeder Link
TF42	25.0	19137.5	Feeder Link
TF41	25.0	19112.5	Feeder Link
TF40	25.0	19087.5	Feeder Link
TF39	25.0	19062.5	Feeder Link
TF38	25.0	19037.5	Feeder Link
TF37	25.0	19012.5	Feeder Link
TF36	25.0	18987.5	Feeder Link
TU58	25.0	12637.5	Service Link
TU57	25.0	12612.5	Service Link
TU56	25.0	12587.5	Service Link
TU55	25.0	12562.5	Service Link
TU19	25.0	11662.5	Service Link
TU18	25.0	11637.5	Service Link
TU17	25.0	11612.5	Service Link
TU16	25.0	11587.5	Service Link
TU15	25.0	11562.5	Service Link
TU14	25.0	11537.5	Service Link
TU13	25.0	11512.5	Service Link
TU12	25.0	11487.5	Service Link
TU11	25.0	11462.5	Service Link
TU10	25.0	11437.5	Service Link

TU09	25.0	11412.5	Service Link
TU08	25.0	11387.5	Service Link
TU07	25.0	11362.5	Service Link
TU06	25.0	11337.5	Service Link
TU01	25.0	11212.5	Service Link
TF30	25.0	18837.5	Feeder Link
TF29	25.0	18812.5	Feeder Link
TF28	25.0	18787.5	Feeder Link
TF27	25.0	18762.5	Feeder Link
TF26	25.0	18737.5	Feeder Link
TF25	25.0	18712.5	Feeder Link
TF24	25.0	18687.5	Feeder Link
TF23	25.0	18662.5	Feeder Link
TF22	25.0	18637.5	Feeder Link
TF21	25.0	18612.5	Feeder Link
TF20	25.0	18587.5	Feeder Link
TF19	25.0	18562.5	Feeder Link
TF18	25.0	18537.5	Feeder Link
TF17	25.0	18512.5	Feeder Link
TF16	25.0	18487.5	Feeder Link
TF15	25.0	18462.5	Feeder Link
TF14	25.0	18437.5	Feeder Link
TF13	25.0	18412.5	Feeder Link
TF12	25.0	18387.5	Feeder Link
TF11	25.0	18362.5	Feeder Link
TF10	25.0	18337.5	Feeder Link

TF09	25.0	18312.5	Feeder Link
TF08	25.0	18287.5	Feeder Link
TU52	25.0	12487.5	Service Link
TU53	25.0	12512.5	Service Link
TU54	25.0	12537.5	Service Link
TU51	25.0	12462.5	Service Link
TU50	25.0	12437.5	Service Link
TU49	25.0	12412.5	Service Link
TU48	25.0	12387.5	Service Link
TU47	25.0	12362.5	Service Link
TU46	25.0	12337.5	Service Link
TU45	25.0	12312.5	Service Link
TU44	25.0	12287.5	Service Link
TU43	25.0	12262.5	Service Link
TU42	25.0	12237.5	Service Link
TU41	25.0	12212.5	Service Link
TU40	25.0	12187.5	Service Link
TU02	25.0	11237.5	Service Link
TU03	25.0	11262.5	Service Link
TU04	25.0	11287.5	Service Link
TU05	25.0	11312.5	Service Link
TF03	25.0	18162.5	Feeder Link
TF02	25.0	18137.5	Feeder Link
TF01	20.0	18115.0	Feeder Link
TF04	25.0	18187.5	Service Link
TF05	25.0	18212.5	Feeder Link

TF06	25.0	18237.5	Feeder Link
TF07	25.0	18262.5	Feeder Link
TU39	25.0	12162.5	Service Link
TU38	25.0	12137.5	Service Link
TU37	25.0	12112.5	Service Link
TU36	25.0	12087.5	Service Link
TU35	25.0	12062.5	Service Link
TU34	25.0	12037.5	Service Link
TU33	25.0	12012.5	Service Link
TU32	25.0	11987.5	Service Link
TU31	25.0	11962.5	Service Link
TU30	25.0	11937.5	Service Link
TU29	25.0	11912.5	Service Link
TU28	25.0	11887.5	Service Link
TU27	25.0	11862.5	Service Link
TU26	25.0	11837.5	Service Link
TU25	25.0	11812.5	Service Link
TU24	25.0	11787.5	Service Link
TU23	25.0	11762.5	Service Link
TU22	25.0	11737.5	Service Link
TU21	25.0	11712.5	Service Link
TU20	25.0	11687.5	Service Link
TF35	25.0	18962.5	Feeder Link
TF34	25.0	18937.5	Feeder Link
TF33	25.0	18912.5	Feeder Link
TF32	25.0	18887.5	Feeder Link

TF31	25.0	18862.5	Feeder Link
TU60	25.0	12687.5	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?	Yes
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?	Yes
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.