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

Federal Communications Commission

312 File Number: **SATAMD2018010400004**

Filing Description

Question	Response
Description	Amendment to Petition for Declaratory Ruling Granting Access to the U.S. Market for the OneWeb V-Band System

Satellite Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	OneWeb MEO
Estimated Lifetime of Satellite(s) From Date of Launch	10 Years
Will the space station(s) operate on a Common Carrier basis?	No

Operating Frequency Bands (15)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		10700.0 MHz -12700.0 MHz	Transmit
Fixed-Satellite Service		12750.0 MHz -13250.0 MHz	Receive
Fixed-Satellite Service		13750.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		15430.0 MHz -15630.0 MHz	Receive
Fixed-Satellite Service		18800.0 MHz -20200.0 MHz	Transmit
Fixed-Satellite Service		27500.0 MHz -30000.0 MHz	Receive
Fixed-Satellite Service		37500.0 MHz -42500.0 MHz	Transmit
Fixed-Satellite Service		42500.0 MHz -43500.0 MHz	Receive
Fixed-Satellite Service		47200.0 MHz -50200.0 MHz	Receive
Fixed-Satellite Service		50400.0 MHz -51400.0 MHz	Receive
Fixed-Satellite Service		18100.0 MHz -18600.0 MHz	Transmit
Fixed-Satellite Service		17800.0 MHz -18100.0 MHz	Receive
Fixed-Satellite Service		71000.0 MHz -76000.0 MHz	Receive
Fixed-Satellite Service		71000.0 MHz -76000.0 MHz	Transmit
Fixed-Satellite Service		81000.0 MHz -86000.0 MHz	Receive

Orbital Information For Non-Geostationary Satellites

Question	Response
Total Number of Satellites in the active constellation	2560
Orbit Epoch Date	01/01/2010
Celestrial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	191.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18060.4 seconds
Apogee	8500.0 km
Perigee	8500.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.0 degrees
Active Service Arc End Angle with respect to Ascending Node	45.0 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	18.0
2	13.5
3	9.0
4	4.5
5	0.0
6	355.5
7	351.0
8	346.5
9	342.0
10	337.5
11	333.0
12	328.5

13	324.0
14	319.5
15	315.0
16	310.5
17	306.0
18	301.5
19	297.0
20	292.5
21	288.0
22	283.5
23	279.0
24	274.5
25	270.0
26	265.5
27	261.0
28	256.5
29	252.0
30	247.5
31	243.0
32	238.5
33	234.0
34	229.5
35	225.0
36	220.5
37	216.0
38	211.5

39	108.0
40	207.0
41	202.5
42	198.0
43	193.5
44	189.0
45	184.5
46	180.0
47	175.5
48	171.0
49	166.5
50	162.0
51	157.5
52	153.0
53	148.5
54	144.0
55	139.5
56	135.0
57	130.5
58	126.0
59	121.5
60	117.0
61	112.5
62	103.5
63	99.0
64	94.5

65	90.0
66	85.5
67	81.0
68	76.5
69	72.0
70	67.5
71	63.0
72	58.5
73	54.0
74	49.5
75	45.0
76	40.5
77	36.0
78	31.5
79	27.0
80	22.5

Orbital Plane 2:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.27 degrees
Right Ascension of Ascending Node	348.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18024.0 seconds
Apogee	8480.0 km
Perigee	8480.0 km

Active Service Arc Begin Angle with respect to Ascending Node	-45.27 degrees
Active Service Arc End Angle with respect to Ascending Node	45.27 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0

22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0

48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0

74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 3:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.8 degrees
Right Ascension of Ascending Node	326.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17951.3 seconds
Apogee	8440.0 km
Perigee	8440.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.8 degrees
Active Service Arc End Angle with respect to Ascending Node	45.8 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5

5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5

31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5

57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 4:

Question	Response

Number of Satellites in Plane	80
Inclination Angle	44.32 degrees
Right Ascension of Ascending Node	303.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18151.5 seconds
Apogee	8550.0 km
Perigee	8550.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.32 degrees
Active Service Arc End Angle with respect to Ascending Node	-44.32 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0

14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0

40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0

66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 5:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.86 degrees
Right Ascension of Ascending Node	281.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18078.6 seconds
Apogee	8510.0 km
Perigee	8510.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.86 degrees

Active Service Arc End Angle with respect to Ascending Node	44.86 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5

23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5

49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5

75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 6:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.4 degrees
Right Ascension of Ascending Node	258.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18005.8 seconds
Apogee	8470.0 km
Perigee	8470.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.4 degrees
Active Service Arc End Angle with respect to Ascending Node	45.4 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0

6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0

32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0

58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 7:

Question	Response
Number of Satellites in Plane	80

Inclination Angle	45.93 degrees
Right Ascension of Ascending Node	236.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17933.1 seconds
Apogee	8430.0 km
Perigee	8430.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.93 degrees
Active Service Arc End Angle with respect to Ascending Node	45.93 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5

15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5

41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5

67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 8:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.46 degrees
Right Ascension of Ascending Node	213.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18133.3 seconds
Apogee	8540.0 km
Perigee	8540.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.46 degrees
Active Service Arc End Angle with respect to Ascending Node	44.46 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5

25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5

51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5

77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 9:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	43.9 degrees
Right Ascension of Ascending Node	168.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18206.3 seconds
Apogee	8580.0 km
Perigee	8580.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-43.9 degrees
Active Service Arc End Angle with respect to Ascending Node	43.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0

8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0

34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0

60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 10:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.04 degrees
Right Ascension of Ascending Node	146.25 degrees

Argument of Perigee	0.0 degrees
Orbital Period	18188.0 seconds
Apogee	8570.0 km
Perigee	8570.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.04 degrees
Active Service Arc End Angle with respect to Ascending Node	44.04 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	18.0
2	13.5
3	9.0
4	4.5
5	0.0
6	355.5
7	351.0
8	346.5
9	342.0
10	337.5
11	333.0
12	328.5
13	324.0
14	319.5
15	315.0
16	310.5

17	306.0
18	301.5
19	297.0
20	292.5
21	288.0
22	283.5
23	279.0
24	274.5
25	270.0
26	265.5
27	261.0
28	256.5
29	252.0
30	247.5
31	243.0
32	238.5
33	234.0
34	229.5
35	225.0
36	220.5
37	216.0
38	211.5
39	207.0
40	202.5
41	198.0
42	193.5

43	189.0
44	184.5
45	180.0
46	175.5
47	171.0
48	166.5
49	162.0
50	157.5
51	153.0
52	148.5
53	144.0
54	139.5
55	135.0
56	130.5
57	126.0
58	121.5
59	117.0
60	112.5
61	108.0
62	103.5
63	99.0
64	94.5
65	90.0
66	85.5
67	81.0
68	76.5

69	72.0
70	67.5
71	63.0
72	58.5
73	54.0
74	49.5
75	45.0
76	40.5
77	36.0
78	31.5
79	27.0
80	22.5

Orbital Plane 11:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.53 degrees
Right Ascension of Ascending Node	123.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17987.6 seconds
Apogee	8460.0 km
Perigee	8460.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.53 degrees
Active Service Arc End Angle with respect to Ascending Node	45.53 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0

26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0

52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0

78	346.5
79	351.0
80	355.5

Orbital Plane 12:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.18 degrees
Right Ascension of Ascending Node	101.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18169.8 seconds
Apogee	8560.0 km
Perigee	8560.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.18 degrees
Active Service Arc End Angle with respect to Ascending Node	44.18 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5

9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5

35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5

61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 13:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.13 degrees
Right Ascension of Ascending Node	78.75 degrees
Argument of Perigee	0.0 degrees

Orbital Period	18042.2 seconds
Apogee	8490.0 km
Perigee	8490.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.13 degrees
Active Service Arc End Angle with respect to Ascending Node	45.13 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0

18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0

44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0

70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 14:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.66 degrees
Right Ascension of Ascending Node	56.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17969.5 seconds
Apogee	8450.0 km
Perigee	8450.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.66 degrees
Active Service Arc End Angle with respect to Ascending Node	45.66 degrees

Mean Anomaly For Each Satellite

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

1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5

27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5

53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5

79	351.0
80	355.5

Orbital Plane 15:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.59 degrees
Right Ascension of Ascending Node	33.75 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18115.1 seconds
Apogee	8530.0 km
Perigee	8530.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.59 degrees
Active Service Arc End Angle with respect to Ascending Node	44.59 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0

10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0

36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0

62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 16:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.73 degrees
Right Ascension of Ascending Node	11.25 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18096.9 seconds

Apogee	8520.0 km
Perigee	8520.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.73 degrees
Active Service Arc End Angle with respect to Ascending Node	44.73 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0

20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0

46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0

72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 17:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	43.97 degrees
Right Ascension of Ascending Node	337.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18197.2 seconds
Apogee	8575.0 km
Perigee	8575.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-43.97 degrees
Active Service Arc End Angle with respect to Ascending Node	43.97 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5

3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5

29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5

55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 18:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.52 degrees
Right Ascension of Ascending Node	315.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18124.2 seconds
Apogee	8535.0 km
Perigee	8535.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.52 degrees
Active Service Arc End Angle with respect to Ascending Node	44.52 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5

13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5

39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5

65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 19:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.07 degrees
Right Ascension of Ascending Node	292.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18051.3 seconds
Apogee	8495.0 km
Perigee	8495.0 km

Active Service Arc Begin Angle with respect to Ascending Node	-45.07 degrees
Active Service Arc End Angle with respect to Ascending Node	45.07 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0

22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0

48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0

74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 20:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.6 degrees
Right Ascension of Ascending Node	270.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17978.6 seconds
Apogee	8455.0 km
Perigee	8455.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.6 degrees
Active Service Arc End Angle with respect to Ascending Node	45.6 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5

5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5

31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5

57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 21:

Question	Response

Number of Satellites in Plane	80
Inclination Angle	44.11 degrees
Right Ascension of Ascending Node	247.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18178.9 seconds
Apogee	8565.0 km
Perigee	8565.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.11 degrees
Active Service Arc End Angle with respect to Ascending Node	44.11 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0

14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0

40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0

66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 22:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.66 degrees
Right Ascension of Ascending Node	225.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18106.0 seconds
Apogee	8525.0 km
Perigee	8525.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.66 degrees

Active Service Arc End Angle with respect to Ascending Node	44.66 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5

23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5

49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5

75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 23:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.2 degrees
Right Ascension of Ascending Node	202.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18033.1 seconds
Apogee	8485.0 km
Perigee	8485.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.2 degrees
Active Service Arc End Angle with respect to Ascending Node	45.2 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0

6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0

32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0

58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 24:

Question	Response
Number of Satellites in Plane	80

Inclination Angle	45.73 degrees
Right Ascension of Ascending Node	180.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17960.4 seconds
Apogee	8445.0 km
Perigee	8445.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.73 degrees
Active Service Arc End Angle with respect to Ascending Node	45.73 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5

15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5

41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5

67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 25:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.25 degrees
Right Ascension of Ascending Node	157.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18160.7 seconds
Apogee	8555.0 km
Perigee	8555.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.25 degrees
Active Service Arc End Angle with respect to Ascending Node	44.25 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	18.0
2	13.5
3	9.0
4	4.5
5	0.0
6	355.5
7	351.0
8	346.5
9	342.0
10	337.5
11	333.0
12	328.5
13	324.0
14	319.5
15	315.0
16	310.5
17	306.0
18	301.5
19	297.0
20	292.5
21	288.0
22	283.5
23	279.0
24	274.5

25	270.0
26	265.5
27	261.0
28	256.5
29	252.0
30	247.5
31	243.0
32	238.5
33	234.0
34	229.5
35	225.0
36	220.5
37	216.0
38	211.5
39	207.0
40	202.5
41	198.0
42	193.5
43	189.0
44	184.5
45	180.0
46	175.5
47	171.0
48	166.5
49	162.0
50	157.5

51	153.0
52	148.5
53	144.0
54	139.5
55	135.0
56	130.5
57	126.0
58	121.5
59	117.0
60	112.5
61	108.0
62	103.5
63	99.0
64	94.5
65	90.0
66	85.5
67	81.0
68	76.5
69	72.0
70	67.5
71	63.0
72	58.5
73	54.0
74	49.5
75	45.0
76	40.5

77	36.0
78	31.5
79	27.0
80	22.5

Orbital Plane 26:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.8 degrees
Right Ascension of Ascending Node	135.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18087.8 seconds
Apogee	8515.0 km
Perigee	8515.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.8 degrees
Active Service Arc End Angle with respect to Ascending Node	44.8 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0

8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0

34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0

60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 27:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.34 degrees
Right Ascension of Ascending Node	112.5 degrees

Argument of Perigee	0.0 degrees
Orbital Period	18014.9 seconds
Apogee	8475.0 km
Perigee	8475.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.34 degrees
Active Service Arc End Angle with respect to Ascending Node	45.34 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5

17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5

43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5

69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 28:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.86 degrees
Right Ascension of Ascending Node	90.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17942.2 seconds
Apogee	8435.0 km
Perigee	8435.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.86 degrees
Active Service Arc End Angle with respect to Ascending Node	45.86 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0

26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0

52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0

78	346.5
79	351.0
80	355.5

Orbital Plane 29:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.39 degrees
Right Ascension of Ascending Node	67.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	18142.4 seconds
Apogee	8545.0 km
Perigee	8545.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.39 degrees
Active Service Arc End Angle with respect to Ascending Node	44.39 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5

9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5

35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5

61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 30:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	44.93 degrees
Right Ascension of Ascending Node	45.0 degrees
Argument of Perigee	0.0 degrees

Orbital Period	18069.5 seconds
Apogee	8505.0 km
Perigee	8505.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-44.93 degrees
Active Service Arc End Angle with respect to Ascending Node	44.93 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0

18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5
27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0

44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5
53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0

70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5
79	351.0
80	355.5

Orbital Plane 31:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.47 degrees
Right Ascension of Ascending Node	22.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17996.7 seconds
Apogee	8465.0 km
Perigee	8465.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.47 degrees
Active Service Arc End Angle with respect to Ascending Node	45.47 degrees

Mean Anomaly For Each Satellite

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

1	0.0
2	4.5
3	9.0
4	13.5
5	18.0
6	22.5
7	27.0
8	31.5
9	36.0
10	40.5
11	45.0
12	49.5
13	54.0
14	58.5
15	63.0
16	67.5
17	72.0
18	76.5
19	81.0
20	85.5
21	90.0
22	94.5
23	99.0
24	103.5
25	108.0
26	112.5

27	117.0
28	121.5
29	126.0
30	130.5
31	135.0
32	139.5
33	144.0
34	148.5
35	153.0
36	157.5
37	162.0
38	166.5
39	171.0
40	175.5
41	180.0
42	184.5
43	189.0
44	193.5
45	198.0
46	202.5
47	207.0
48	211.5
49	216.0
50	220.5
51	225.0
52	229.5

53	234.0
54	238.5
55	243.0
56	247.5
57	252.0
58	256.5
59	261.0
60	265.5
61	270.0
62	274.5
63	279.0
64	283.5
65	288.0
66	292.5
67	297.0
68	301.5
69	306.0
70	310.5
71	315.0
72	319.5
73	324.0
74	328.5
75	333.0
76	337.5
77	342.0
78	346.5

79	351.0
80	355.5

Orbital Plane 32:

Question	Response
Number of Satellites in Plane	80
Inclination Angle	45.99 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	17924.0 seconds
Apogee	8425.0 km
Perigee	8425.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-45.99 degrees
Active Service Arc End Angle with respect to Ascending Node	45.99 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	4.5
2	0.0
3	256.5
4	261.0
5	265.5
6	310.5
7	315.0
8	319.5
9	324.0

10	328.5
11	355.5
12	351.0
13	346.5
14	342.0
15	337.5
16	333.0
17	306.0
18	301.5
19	297.0
20	292.5
21	288.0
22	283.5
23	279.0
24	274.5
25	270.0
26	252.0
27	247.5
28	243.0
29	238.5
30	234.0
31	229.5
32	225.0
33	220.5
34	216.0
35	211.5

36	207.0
37	202.5
38	198.0
39	193.5
40	189.0
41	184.5
42	180.0
43	175.5
44	171.0
45	166.5
46	162.0
47	157.5
48	153.0
49	148.5
50	144.0
51	139.5
52	135.0
53	130.5
54	126.0
55	121.5
56	117.0
57	112.5
58	108.0
59	103.5
60	99.0
61	94.5

62	90.0
63	85.5
64	81.0
65	76.5
66	72.0
67	67.5
68	63.0
69	58.5
70	54.0
71	49.5
72	45.0
73	40.5
74	36.0
75	31.5
76	27.0
77	22.5
78	18.0
79	13.5
80	9.0

Receiving Beams 1:

Question	Response
Beam ID	GRKI
Receive Beam Frequency	17800.0 MHz -18100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle

Receiving Beams 2:

Question	Response
Beam ID	GRKJ
Receive Beam Frequency	17800.0 MHz -18100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle

Receiving Beams 3:

Question	Response
Beam ID	URKI
Receive Beam Frequency	17800.0 MHz -18100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	50.6 dBi
Antenna Pointing Error	0.02 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	23.7 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle

Receiving Beams 4:

Question	Response
Beam ID	GRKF
Receive Beam Frequency	15430.0 MHz -15630.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 5:

Question	Response
Beam ID	GRKG
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	45.2 dBi
Antenna Pointing Error	0.02 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	18.2 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 6:

Question	Response
Beam ID	GRKH
Receive Beam Frequency	27500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	45.2 dBi
Antenna Pointing Error	0.02 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	18.2 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 7:

Question	Response

Beam ID	MGR1
Receive Beam Frequency	42500.0 MHz -43500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	49.5 dBi
Antenna Pointing Error	0.02 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	21.0 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 8:

Question	Response
Beam ID	GRKB
Receive Beam Frequency	12750.0 MHz -13250.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 9:

Question	Response
Beam ID	URKJ
Receive Beam Frequency	17800.0 MHz -18100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	50.6 dBi
Antenna Pointing Error	0.02 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	23.7 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle

Receiving Beams 10:

Question	Response
Beam ID	MGR2

Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	49.5 dBi
Antenna Pointing Error	0.02 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	21.0 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 11:

Question	Response
Beam ID	GRKC
Receive Beam Frequency	13750.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K

Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 12:

Question	Response
Beam ID	GRKD
Receive Beam Frequency	13750.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 13:

Question	Response
Beam ID	GRKE
Receive Beam Frequency	15430.0 MHz -15630.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 14:

Question	Response
Beam ID	MGR3
Receive Beam Frequency	50400.0 MHz -51400.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	49.5 dBi
Antenna Pointing Error	0.02 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	21.0 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2

Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 15:

Question	Response
Beam ID	MGR4
Receive Beam Frequency	42500.0 MHz -43500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	49.5 dBi
Antenna Pointing Error	0.02 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	21.0 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 16:

Question	Response
Beam ID	MGR5
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Steerable

Polarization	RHCP
Peak Gain	49.5 dBi
Antenna Pointing Error	0.02 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	21.0 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 17:

Question	Response
Beam ID	GREB
Receive Beam Frequency	71000.0 MHz -76000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.02 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	26.4 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2

Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 18:

Question	Response
Beam ID	GREC
Receive Beam Frequency	81000.0 MHz -86000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.02 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	26.4 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 19:

Question	Response
Beam ID	GRED
Receive Beam Frequency	81000.0 MHz -86000.0 MHz
Beam Type	Steerable
Polarization	RHCP

Peak Gain	54.2 dBi
Antenna Pointing Error	0.02 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	26.4 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 20:

Question	Response
Beam ID	URKA
Receive Beam Frequency	12750.0 MHz -13250.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	50.6 dBi
Antenna Pointing Error	0.02 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	23.7 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 21:

Question	Response
Beam ID	URKB
Receive Beam Frequency	12750.0 MHz -13250.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	50.6 dBi
Antenna Pointing Error	0.02 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	23.7 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 22:

Question	Response
Beam ID	URKC
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	50.6 dBi

Antenna Pointing Error	0.02 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	23.7 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 23:

Question	Response
Beam ID	URKD
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	50.6 dBi
Antenna Pointing Error	0.02 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	23.7 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 24:

Question	Response
Beam ID	URKE
Receive Beam Frequency	28350.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	57.3 dBi
Antenna Pointing Error	0.02 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	30.3 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 25:

Question	Response
Beam ID	URKF
Receive Beam Frequency	28350.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	57.3 dBi

Antenna Pointing Error	0.02 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	30.3 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 26:

Question	Response
Beam ID	URKG
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	57.3 dBi
Antenna Pointing Error	0.02 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	30.3 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 27:

Question	Response
Beam ID	URKH
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	57.3 dBi
Antenna Pointing Error	0.02 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	30.3 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 28:

Question	Response
Beam ID	URVA
Receive Beam Frequency	47200.0 MHz -48200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	55.1 dBi

Antenna Pointing Error	0.02 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	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 29:

Question	Response
Beam ID	URVB
Receive Beam Frequency	47200.0 MHz -48200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	55.1 dBi
Antenna Pointing Error	0.02 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	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 30:

Question	Response
Beam ID	MURL
Receive Beam Frequency	48200.0 MHz -50200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	55.1 dBi
Antenna Pointing Error	0.02 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	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 31:

Question	Response
Beam ID	MURR
Receive Beam Frequency	48200.0 MHz -50200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	55.1 dBi

Antenna Pointing Error	0.02 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	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 32:

Question	Response
Beam ID	URVC
Receive Beam Frequency	50400.0 MHz -51400.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	55.1 dBi
Antenna Pointing Error	0.02 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	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 33:

Question	Response
Beam ID	URVD
Receive Beam Frequency	50400.0 MHz -51400.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	55.1 dBi
Antenna Pointing Error	0.02 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	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

Receiving Beams 34:

Question	Response
Beam ID	GREA
Receive Beam Frequency	71000.0 MHz -76000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	54.2 dBi

Antenna Pointing Error	0.02 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	26.4 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 35:

Question	Response
Beam ID	GRKA
Receive Beam Frequency	12750.0 MHz -13250.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.6 dBi
Antenna Pointing Error	0.02 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	11.6 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Beams 36:

Question	Response
Beam ID	MGR6
Receive Beam Frequency	50400.0 MHz -51400.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	49.5 dBi
Antenna Pointing Error	0.02 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	21.0 dB/K
Min. Saturation Flux Density	-110.0 dBW/m2
Max. Saturation Flux Density	-100.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

Receiving Channels (68)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
GR38	500.0	81250.0	Feeder Link
GR37	500.0	75750.0	Feeder Link
GR36	500.0	75250.0	Feeder Link
GR35	500.0	74750.0	Feeder Link
GR34	500.0	74250.0	Feeder Link
GR33	500.0	73750.0	Feeder Link
GR32	500.0	73250.0	Feeder Link
UR49	250.0	17975.0	Service Link
UR48	250.0	17925.0	Service Link
GR49	250.0	17975.0	Feeder Link
GR48	250.0	17925.0	Feeder Link
GR30	500.0	72250.0	Feeder Link
GR29	500.0	71750.0	Feeder Link
UR02	250.0	13125.0	Service Link
UR01	250.0	12875.0	Service Link
GR28	500.0	71250.0	Feeder Link
GR27	500.0	51150.0	Feeder Link
GR26	500.0	50650.0	Feeder Link
GR25	500.0	49950.0	Feeder Link
GR24	500.0	49450.0	Feeder Link
GR23	500.0	48950.0	Feeder Link
GR22	500.0	48450.0	Feeder Link
GR21	500.0	47950.0	Feeder Link
GR20	500.0	47450.0	Feeder Link

GR19	500.0	43250.0	Feeder Link
GR18	500.0	42750.0	Feeder Link
GR17	250.0	29875.0	Feeder Link
GR16	250.0	29625.0	Feeder Link
GR15	250.0	29375.0	Feeder Link
GR05	250.0	14375.0	Feeder Link
GR14	250.0	29225.0	Feeder Link
GR13	250.0	28975.0	Feeder Link
GR12	250.0	28725.0	Feeder Link
GR11	250.0	28475.0	Feeder Link
GR10	250.0	28225.0	Feeder Link
GR47	500.0	85750.0	Feeder Link
GR46	500.0	85250.0	Feeder Link
GR45	500.0	84750.0	Feeder Link
GR44	500.0	84250.0	Feeder Link
GR43	500.0	83750.0	Feeder Link
GR42	500.0	83250.0	Feeder Link
GR41	500.0	82750.0	Feeder Link
GR40	500.0	82550.0	Feeder Link
UR22	500.0	48450.0	Service Link
UR21	500.0	47950.0	Service Link
UR20	500.0	47450.0	Service Link
UR17	250.0	29875.0	Service Link
UR16	250.0	29625.0	Service Link
UR13	250.0	28975.0	Service Link
UR12	250.0	28725.0	Service Link

UR11	250.0	28475.0	Service Link
UR05	250.0	14375.0	Service Link
UR04	250.0	14125.0	Service Link
UR23	500.0	48950.0	Service Link
UR24	500.0	49450.0	Service Link
UR25	500.0	49950.0	Service Link
UR26	500.0	50650.0	Service Link
UR27	500.0	51150.0	Service Link
GR04	250.0	14125.0	Feeder Link
GR03	250.0	13875.0	Feeder Link
GR02	250.0	13125.0	Feeder Link
GR01	250.0	12875.0	Feeder Link
GR31	500.0	72750.0	Feeder Link
GR39	500.0	81750.0	Feeder Link
GR09	250.0	27975.0	Feeder Link
GR08	250.0	27725.0	Feeder Link
GR07	250.0	27625.0	Feeder Link
GR06	200.0	15530.0	Feeder Link

Transmitting Beams 1:

Question	Response
Beam ID	UTKG
Transmit Beam Frequency	18800.0 MHz -19400.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	53.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.7 dBW/Hz
Max. Transmit EIRP	66.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-159.0	-158.7	-158.3	-157.9	-153.6	-110.3

Transmitting Beams 2:

Question	Response
Beam ID	UTKH
Transmit Beam Frequency	18800.0 MHz -19400.0 MHz

Beam Type	Steerable
Polarization	RHCP
Peak Gain	53.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.7 dBW/Hz
Max. Transmit EIRP	66.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-159.0	-158.7	-158.3	-157.9	-153.6	-110.3

Transmitting Beams 3:

Question	Response
Beam ID	UTKA
Transmit Beam Frequency	10700.0 MHz -11700.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	49.1 dBi
Antenna Pointing Error	0.02 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.6 dBW/Hz
Max. Transmit EIRP	62.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-140.8	-140.5	-140.1	-139.7	-139.4	-117.2

Transmitting Beams 4:

Question	Response
Beam ID	UTKI
Transmit Beam Frequency	19600.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	53.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.7 dBW/Hz

Max. Transmit EIRP	66.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-134.0	-133.7	-133.3	-132.9	-132.6	-110.3

Transmitting Beams 5:

Question	Response
Beam ID	UTKJ
Transmit Beam Frequency	19600.0 MHz -20200.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	53.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.7 dBW/Hz
Max. Transmit EIRP	66.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-134.0	-133.7	-133.3	-132.9	-132.6	-110.3

Transmitting Beams 6:

Question	Response
Beam ID	MUTA
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	53.7 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.5 dBW/Hz
Max. Transmit EIRP	66.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-140.7	-140.4	-140.0	-139.6	-139.3	-117.1

Transmitting Beams 7:

Question	Response
Beam ID	MUTB
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	53.7 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.5 dBW/Hz
Max. Transmit EIRP	66.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-140.7	-140.4	-140.0	-139.6	-139.3	-117.1

Transmitting Beams 8:

Question	Response

Beam ID	MUTL
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	53.7 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-21.3 dBW/Hz
Max. Transmit EIRP	72.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-134.5	-134.2	-133.8	-133.4	-133.1	-110.9

Transmitting Beams 9:

Question	Response
Beam ID	GTEA
Transmit Beam Frequency	71000.0 MHz -76000.0 MHz
Beam Type	Steerable
Polarization	LHCP

Peak Gain	53.1 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-23.9 dBW/Hz
Max. Transmit EIRP	73.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

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	-137.0	-137.0	-137.0	-116.1	-115.7	-113.5

Transmitting Beams 10:

Question	Response
Beam ID	UTKB
Transmit Beam Frequency	10700.0 MHz -11700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	49.1 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-27.6 dBW/Hz
Max. Transmit EIRP	62.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-140.8	-140.5	-140.1	-139.7	-139.4	-117.2

Transmitting Beams 11:

Question	Response
Beam ID	UTKD
Transmit Beam Frequency	11700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	49.1 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-25.6 dBW/Hz
Max. Transmit EIRP	64.4 dBW
Co- or Cross Polar Mode	C

Service Area Description	Earth locations above 45 degree elevation angle.

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	-138.8	-138.5	-138.1	-137.7	-137.4	-115.2

Transmitting Beams 12:

Question	Response
Beam ID	UTKF
Transmit Beam Frequency	18100.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	53.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.7 dBW/Hz
Max. Transmit EIRP	69.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-159.0	-158.7	-158.3	-157.9	-153.6	-110.3

Transmitting Beams 13:

Question	Response
Beam ID	UTKC
Transmit Beam Frequency	11700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	49.1 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-25.6 dBW/Hz
Max. Transmit EIRP	64.4 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-138.8	-138.5	-138.1	-137.7	-137.4	-115.2

Transmitting Beams 14:

Question	Response
Beam ID	UTKE
Transmit Beam Frequency	18100.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	53.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-20.7 dBW/Hz
Max. Transmit EIRP	69.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-159.0	-158.7	-158.3	-157.9	-153.6	-110.3

Transmitting Beams 15:

Question	Response
Beam ID	MUTR
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz

Beam Type	Steerable
Polarization	RHCP
Peak Gain	53.7 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-21.3 dBW/Hz
Max. Transmit EIRP	72.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 45 degree elevation angle.

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	-134.5	-134.2	-133.8	-133.4	-133.1	-110.9

Transmitting Beams 16:

Question	Response
Beam ID	GTEB
Transmit Beam Frequency	71000.0 MHz -76000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	53.1 dBi
Antenna Pointing Error	0.02 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-23.9 dBW/Hz
Max. Transmit EIRP	73.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

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	-137.0	-137.0	-137.0	-116.1	-115.7	-113.5

Transmitting Beams 17:

Question	Response
Beam ID	GTKA
Transmit Beam Frequency	19300.0 MHz -19700.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	41.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-28.7 dBW/Hz

Max. Transmit EIRP	58.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 25 degree elevation angle.

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	-158.8	-151.5	-141.8	-126.8	-120.5	-118.3

Transmitting Beams 18:

Question	Response
Beam ID	MGTL
Transmit Beam Frequency	37500.0 MHz -42500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	48.1 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-28.9 dBW/Hz
Max. Transmit EIRP	68.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

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	-142.1	-142.1	-135.0	-121.1	-120.8	-118.5

Transmitting Beams 19:

Question	Response
Beam ID	MGTR
Transmit Beam Frequency	37500.0 MHz -42500.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	48.1 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-28.9 dBW/Hz
Max. Transmit EIRP	68.1 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 20 degree elevation angle.

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	-142.1	-142.1	-135.0	-121.1	-120.8	-118.5

Transmitting Beams 20:

Question	Response
Beam ID	GTKB
Transmit Beam Frequency	19300.0 MHz -19700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	41.3 dBi
Antenna Pointing Error	0.02 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-28.7 dBW/Hz
Max. Transmit EIRP	58.3 dBW
Co- or Cross Polar Mode	C
Service Area Description	Earth locations above 25 degree elevation angle.

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	-158.8	-151.5	-141.8	-126.8	-120.5	-118.3

Transmitting Channels (48)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
GT20	500.0	38250.0	Feeder Link
GT19	500.0	37750.0	Feeder Link
UT30	250.0	20075.0	Service Link
UT29	250.0	19275.0	Service Link
UT17	250.0	19825.0	Service Link
UT14	250.0	19175.0	Service Link
UT13	250.0	18925.0	Service Link
GT22	500.0	39250.0	Feeder Link
GT21	500.0	38750.0	Feeder Link
GT16	250.0	19575.0	Feeder Link
GT15	250.0	19425.0	Feeder Link
GT38	500.0	75750.0	Feeder Link
GT37	500.0	75250.0	Feeder Link
GT36	500.0	74750.0	Feeder Link
GT35	500.0	74250.0	Feeder Link
UT10	250.0	18475.0	Service Link
UT09	250.0	18225.0	Service Link
UT08	250.0	12575.0	Service Link
UT07	250.0	12325.0	Service Link
GT34	500.0	73750.0	Feeder Link
UT06	250.0	12075.0	Service Link
UT05	250.0	11825.0	Service Link
UT04	250.0	11575.0	Service Link
UT03	250.0	11325.0	Service Link

UT02	250.0	11075.0	Service Link
UT01	250.0	10825.0	Service Link
GT33	500.0	73250.0	Feeder Link
GT32	500.0	72750.0	Feeder Link
GT31	500.0	72250.0	Feeder Link
GT30	500.0	71750.0	Feeder Link
GT29	500.0	71250.0	Feeder Link
GT28	500.0	42250.0	Feeder Link
GT27	500.0	41750.0	Feeder Link
GT26	500.0	41250.0	Feeder Link
GT25	500.0	40750.0	Feeder Link
GT24	500.0	40250.0	Feeder Link
GT23	500.0	39750.0	Feeder Link
UT28	500.0	42250.0	Service Link
UT27	500.0	41750.0	Service Link
UT26	500.0	41250.0	Service Link
UT25	500.0	40750.0	Service Link
UT24	500.0	40250.0	Service Link
UT23	500.0	39750.0	Service Link
UT22	500.0	39250.0	Service Link
UT21	500.0	38750.0	Service Link
UT20	500.0	38250.0	Service Link
UT19	500.0	37750.0	Service Link
UT18	250.0	20075.0	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?	Yes
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?	Yes
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

File Name	Beam	Field	Attachment Type	Description
UTKG.gxt	UTKG	NGSO Antenna Gain Data	GXT file (*.gxt)	
UTKG.gxt	UTKG	NGSO Antenna Gain Data	GXT file (*.gxt)	
UTKH.gxt	UTKH	NGSO Antenna Gain Data	GXT file (*.gxt)	
UTKH.gxt	UTKH	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKI.gxt	GRKI	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKJ.gxt	GRKJ	NGSO Antenna Gain Data	GXT file (*.gxt)	
URKI.gxt	URKI	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKF.gxt	GRKF	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKG.gxt	GRKG	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKG.gxt	GRKG	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKH.gxt	GRKH	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKH.gxt	GRKH	NGSO Antenna Gain Data	GXT file (*.gxt)	
MGR1.gxt	MGR1	NGSO Antenna Gain Data	GXT file (*.gxt)	
GRKB.gxt	GRKB	NGSO Antenna Gain Data	GXT file (*.gxt)	
URKJ.gxt	URKJ	NGSO Antenna Gain Data	GXT file (*.gxt)	
MGR2.gxt	MGR2	NGSO Antenna Gain Data	GXT file (*.gxt)	

GRKC.gxt	GRKC	NGSO Antenna Gain Data	GXT file (*.gxt)
GRKD.gxt	GRKD	NGSO Antenna Gain Data	GXT file (*.gxt)
GRKE.gxt	GRKE	NGSO Antenna Gain Data	GXT file (*.gxt)
MGR3.gxt	MGR3	NGSO Antenna Gain Data	GXT file (*.gxt)
MGR4.gxt	MGR4	NGSO Antenna Gain Data	GXT file (*.gxt)
MGR5.gxt	MGR5	NGSO Antenna Gain Data	GXT file (*.gxt)
GREB.gxt	GREB	NGSO Antenna Gain Data	GXT file (*.gxt)
GREC.gxt	GREC	NGSO Antenna Gain Data	GXT file (*.gxt)
GRED.gxt	GRED	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKA.gxt	UTKA	NGSO Antenna Gain Data	GXT file (*.gxt)
URKA.gxt	URKA	NGSO Antenna Gain Data	GXT file (*.gxt)
URKB.gxt	URKB	NGSO Antenna Gain Data	GXT file (*.gxt)
URKC.gxt	URKC	NGSO Antenna Gain Data	GXT file (*.gxt)
URKD.gxt	URKD	NGSO Antenna Gain Data	GXT file (*.gxt)
URKE.gxt	URKE	NGSO Antenna Gain Data	GXT file (*.gxt)
URKF.gxt	URKF	NGSO Antenna Gain Data	GXT file (*.gxt)
URKG.gxt	URKG	NGSO Antenna Gain Data	GXT file (*.gxt)

URKH.gxt	URKH	NGSO Antenna Gain Data	GXT file (*.gxt)
URVA.gxt	URVA	NGSO Antenna Gain Data	GXT file (*.gxt)
URVB.gxt	URVB	NGSO Antenna Gain Data	GXT file (*.gxt)
MURL.gxt	MURL	NGSO Antenna Gain Data	GXT file (*.gxt)
MURR.gxt	MURR	NGSO Antenna Gain Data	GXT file (*.gxt)
URVC.gxt	URVC	NGSO Antenna Gain Data	GXT file (*.gxt)
URVD.gxt	URVD	NGSO Antenna Gain Data	GXT file (*.gxt)
GREA.gxt	GREA	NGSO Antenna Gain Data	GXT file (*.gxt)
GRKA.gxt	GRKA	NGSO Antenna Gain Data	GXT file (*.gxt)
MGR6.gxt	MGR6	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKI.gxt	UTKI	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKJ.gxt	UTKJ	NGSO Antenna Gain Data	GXT file (*.gxt)
MUTA.gxt	MUTA	NGSO Antenna Gain Data	GXT file (*.gxt)
MUTB.gxt	MUTB	NGSO Antenna Gain Data	GXT file (*.gxt)
MUTL.gxt	MUTL	NGSO Antenna Gain Data	GXT file (*.gxt)
GTEA.gxt	GTEA	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKB.gxt	UTKB	NGSO Antenna Gain Data	GXT file (*.gxt)

UTKD.gxt	UTKD	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKF.gxt	UTKF	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKF.gxt	UTKF	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKC.gxt	UTKC	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKE.gxt	UTKE	NGSO Antenna Gain Data	GXT file (*.gxt)
UTKE.gxt	UTKE	NGSO Antenna Gain Data	GXT file (*.gxt)
MUTR.gxt	MUTR	NGSO Antenna Gain Data	GXT file (*.gxt)
GTEB.gxt	GTEB	NGSO Antenna Gain Data	GXT file (*.gxt)
GTKA.gxt	GTKA	NGSO Antenna Gain Data	GXT file (*.gxt)
GTKA.gxt	GTKA	NGSO Antenna Gain Data	GXT file (*.gxt)
MGTL.gxt	MGTL	NGSO Antenna Gain Data	GXT file (*.gxt)
MGTR.gxt	MGTR	NGSO Antenna Gain Data	GXT file (*.gxt)
GTKB.gxt	GTKB	NGSO Antenna Gain Data	GXT file (*.gxt)
GTKB.gxt	GTKB	NGSO Antenna Gain Data	GXT file (*.gxt)