



312 File Number: **SATMOD2018031900022**

Filing Description

Question	Response
Description	Amendment to Petition for Declaratory Ruling Granting Access to the U.S. Market for the OneWeb NGSO FSS System

Satellite Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	ONEWEB
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 (6)

Nature of service	Description	Frequency Band(s)	Mode Type
Fixed-Satellite Service		10700.0 MHz -12700.0 MHz	Transmit
Fixed-Satellite Service		14000.0 MHz -14500.0 MHz	Receive
Fixed-Satellite Service		17800.0 MHz -18600.0 MHz	Transmit
Fixed-Satellite Service		18800.0 MHz -19300.0 MHz	Transmit
Fixed-Satellite Service		27500.0 MHz -29100.0 MHz	Receive
Fixed-Satellite Service		29500.0 MHz -30000.0 MHz	Receive

**Orbital
Information For
Non-
Geostationary
Satellites**

Question	Response
Total Number of Satellites in the active constellation	1980
Orbit Epoch Date	01/01/2010
Celestial Reference Body	Earth

Orbital Plane 1:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	6.55
3	13.09
4	19.64
5	26.18
6	32.73
7	39.27
8	45.82
9	52.36
10	58.91
11	65.45
12	72.0
13	78.55

14	85.09
15	91.64
16	98.18
17	104.73
18	111.27
19	117.82
20	124.36
21	130.91
22	137.45
23	144.0
24	150.55
25	157.09
26	163.64
27	170.18
28	176.73
29	183.27
30	189.82
31	196.36
32	202.91
33	209.45
34	216.0
35	222.55
36	229.09
37	235.64
38	242.18
39	248.73

40	255.27
41	261.82
42	268.36
43	274.91
44	281.45
45	288.0
46	294.55
47	301.09
48	307.64
49	314.18
50	320.73
51	327.27
52	333.82
53	353.45
54	346.91
55	340.36

Orbital Plane 2:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	5.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27

23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09

49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 3:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	10.2 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27

6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09

32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 4:

Question

Response

Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	15.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.27
2	9.82
3	16.36
4	22.91
5	29.45
6	36.0
7	42.55
8	49.09
9	55.64
10	62.18
11	68.73
12	75.27
13	81.82
14	88.36
15	94.91

16	101.45
17	108.0
18	114.55
19	121.09
20	127.64
21	134.18
22	140.73
23	147.27
24	153.82
25	160.36
26	166.91
27	173.45
28	180.0
29	186.55
30	193.09
31	199.64
32	206.18
33	212.73
34	219.27
35	225.82
36	232.36
37	238.91
38	245.45
39	252.0
40	258.55
41	265.09

42	271.64
43	278.18
44	284.73
45	291.27
46	297.82
47	304.36
48	310.91
49	317.45
50	324.0
51	330.55
52	337.09
53	343.64
54	350.18
55	356.73

Orbital Plane 5:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	20.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	6.55
3	13.09
4	19.64
5	26.18
6	32.73
7	39.27
8	45.82
9	52.36
10	58.91
11	65.45
12	72.0
13	78.55
14	85.09
15	91.64
16	98.18
17	104.73
18	111.27
19	117.82
20	124.36
21	130.91
22	137.45
23	242.18
24	248.73
25	255.27

26	261.82
27	268.36
28	274.91
29	281.45
30	288.0
31	294.55
32	301.09
33	307.64
34	314.18
35	320.73
36	327.27
37	333.82
38	340.36
39	346.91
40	353.45
41	235.64
42	229.09
43	222.55
44	216.0
45	209.45
46	202.91
47	196.36
48	189.82
49	183.27
50	176.73
51	170.18

52	163.64
53	157.09
54	150.55
55	144.0

Orbital Plane 6:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	25.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91

9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73

35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 7:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	30.6 degrees

Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18

19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0

45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 8:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	35.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73

2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55

28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36

54	9.82
55	3.27

Orbital Plane 9:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	40.8 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55

11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36

37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 10:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	45.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds

Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36

21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18

47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 11:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	51.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36

4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18

30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 12:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	56.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	291.27
2	284.73
3	278.18
4	271.64
5	265.09
6	258.55
7	252.0
8	245.45
9	238.91
10	232.36
11	225.82
12	219.27
13	212.73

14	206.18
15	199.64
16	193.09
17	186.55
18	180.0
19	173.45
20	166.91
21	160.36
22	153.82
23	147.27
24	140.73
25	134.18
26	127.64
27	121.09
28	114.55
29	108.0
30	101.45
31	94.91
32	88.36
33	81.82
34	75.27
35	68.73
36	62.18
37	55.64
38	49.09
39	42.55

40	36.0
41	29.45
42	22.91
43	16.36
44	9.82
45	3.27
46	356.73
47	350.18
48	343.64
49	337.09
50	330.55
51	324.0
52	317.45
53	310.91
54	304.36
55	297.82

Orbital Plane 13:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	61.2 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0

23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82

49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 14:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	66.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55

6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36

32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 15:

Question

Response

Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	71.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82

16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64

42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 16:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	76.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64

26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45

52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 17:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	81.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	6.55
3	13.09
4	19.64
5	26.18
6	32.73
7	39.27
8	45.82

9	52.36
10	58.91
11	65.45
12	72.0
13	78.55
14	85.09
15	91.64
16	98.18
17	104.73
18	111.27
19	117.82
20	124.36
21	130.91
22	137.45
23	144.0
24	150.55
25	157.09
26	163.64
27	170.18
28	176.73
29	183.27
30	189.82
31	196.36
32	202.91
33	209.45
34	216.0

35	222.55
36	229.09
37	235.64
38	242.18
39	248.73
40	255.27
41	261.82
42	268.36
43	274.91
44	281.45
45	288.0
46	294.55
47	301.09
48	307.64
49	314.18
50	320.73
51	327.27
52	333.82
53	340.36
54	346.91
55	353.45

Orbital Plane 18:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	86.7 degrees

Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45

19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27

45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 19:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	91.8 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

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

2	6.55
3	13.09
4	19.64
5	26.18
6	32.73
7	39.27
8	45.82
9	52.36
10	58.91
11	65.45
12	72.0
13	78.55
14	85.09
15	91.64
16	98.18
17	104.73
18	111.27
19	117.82
20	124.36
21	130.91
22	137.45
23	144.0
24	150.55
25	157.09
26	163.64
27	170.18

28	176.73
29	183.27
30	189.82
31	196.36
32	202.91
33	209.45
34	216.0
35	222.55
36	229.09
37	235.64
38	242.18
39	248.73
40	255.27
41	261.82
42	268.36
43	274.91
44	281.45
45	288.0
46	294.55
47	301.09
48	307.64
49	314.18
50	320.73
51	327.27
52	333.82
53	340.36

54	346.91
55	353.45

Orbital Plane 20:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	96.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	29.45
2	36.0
3	42.55
4	49.09
5	55.64
6	62.18
7	68.73
8	75.27
9	81.82
10	88.36

11	94.91
12	101.45
13	108.0
14	114.55
15	121.09
16	127.64
17	134.18
18	140.73
19	147.27
20	153.82
21	160.36
22	166.91
23	173.45
24	180.0
25	186.55
26	193.09
27	199.64
28	206.18
29	212.73
30	219.27
31	225.82
32	232.36
33	238.91
34	245.45
35	252.0
36	258.55

37	265.09
38	271.64
39	278.18
40	284.73
41	291.27
42	297.82
43	304.36
44	310.91
45	317.45
46	324.0
47	330.55
48	337.09
49	343.64
50	350.18
51	356.73
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 21:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	102.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds

Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09

21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91

47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 22:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	107.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64

4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45

30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 23:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	112.2 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91

14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73

40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 24:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	117.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27

23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09

49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 25:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	122.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27

6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09

32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 26:

Question

Response

Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	127.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.27
2	9.82
3	16.36
4	22.91
5	29.45
6	36.0
7	42.55
8	49.09
9	55.64
10	62.18
11	68.73
12	75.27
13	81.82
14	88.36
15	94.91

16	101.45
17	108.0
18	114.55
19	121.09
20	127.64
21	134.18
22	140.73
23	147.27
24	153.82
25	160.36
26	166.91
27	173.45
28	180.0
29	186.55
30	193.09
31	199.64
32	206.18
33	212.73
34	219.27
35	225.82
36	232.36
37	238.91
38	245.45
39	252.0
40	258.55
41	265.09

42	271.64
43	278.18
44	284.73
45	291.27
46	297.82
47	304.36
48	310.91
49	317.45
50	324.0
51	330.55
52	337.09
53	343.64
54	350.18
55	356.73

Orbital Plane 27:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	132.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	6.55
2	13.09
3	19.64
4	26.18
5	32.73
6	39.27
7	45.82
8	52.36
9	58.91
10	65.45
11	72.0
12	78.55
13	85.09
14	91.64
15	98.18
16	104.73
17	111.27
18	117.82
19	235.64
20	242.18
21	248.73
22	255.27
23	261.82
24	268.36
25	274.91

26	176.73
27	281.45
28	288.0
29	294.55
30	301.09
31	307.64
32	314.18
33	320.73
34	327.27
35	333.82
36	340.36
37	346.91
38	353.45
39	229.09
40	222.55
41	216.0
42	209.45
43	202.91
44	196.36
45	189.82
46	183.27
47	170.18
48	163.64
49	157.09
50	150.55
51	144.0

52	137.45
53	130.91
54	124.36
55	0.0

Orbital Plane 28:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	137.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.27
2	9.82
3	16.36
4	22.91
5	29.45
6	36.0
7	42.55
8	49.09

9	55.64
10	62.18
11	68.73
12	75.27
13	81.82
14	212.73
15	219.27
16	225.82
17	232.36
18	238.91
19	245.45
20	252.0
21	258.55
22	265.09
23	271.64
24	278.18
25	284.73
26	291.27
27	297.82
28	304.36
29	310.91
30	317.45
31	324.0
32	330.55
33	337.09
34	343.64

35	350.18
36	356.73
37	206.18
38	199.64
39	193.09
40	186.55
41	180.0
42	173.45
43	166.91
44	160.36
45	153.82
46	147.27
47	140.73
48	134.18
49	127.64
50	121.09
51	114.55
52	108.0
53	101.45
54	94.91
55	88.36

Orbital Plane 29:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	142.8 degrees

Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18

19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0

45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 30:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	147.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.27

2	9.82
3	16.36
4	22.91
5	36.0
6	42.55
7	29.45
8	49.09
9	55.64
10	62.18
11	68.73
12	75.27
13	81.82
14	88.36
15	94.91
16	101.45
17	108.0
18	114.55
19	121.09
20	127.64
21	134.18
22	140.73
23	147.27
24	153.82
25	160.36
26	166.91
27	173.45

28	180.0
29	186.55
30	193.09
31	199.64
32	206.18
33	212.73
34	219.27
35	225.82
36	232.36
37	238.91
38	245.45
39	252.0
40	258.55
41	265.09
42	271.64
43	278.18
44	284.73
45	291.27
46	297.82
47	304.36
48	310.91
49	317.45
50	324.0
51	330.55
52	337.09
53	343.64

54	350.18
55	356.73

Orbital Plane 31:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	153.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55

11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0
23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36

37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82
49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 32:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	158.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds

Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18
14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36

21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0
40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18

47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 33:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	163.2 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	209.45
2	202.91
3	196.36

4	189.82
5	183.27
6	176.73
7	170.18
8	163.64
9	157.09
10	150.55
11	144.0
12	137.45
13	130.91
14	124.36
15	117.82
16	111.27
17	104.73
18	98.18
19	91.64
20	85.09
21	78.55
22	72.0
23	65.45
24	58.91
25	52.36
26	45.82
27	39.27
28	32.73
29	26.18

30	19.64
31	13.09
32	6.55
33	0.0
34	353.45
35	346.91
36	340.36
37	333.82
38	327.27
39	320.73
40	314.18
41	307.64
42	301.09
43	294.55
44	288.0
45	281.45
46	274.91
47	268.36
48	261.82
49	255.27
50	248.73
51	242.18
52	235.64
53	229.09
54	222.55
55	216.0

Orbital Plane 34:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	168.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.73
2	350.18
3	343.64
4	337.09
5	330.55
6	324.0
7	317.45
8	310.91
9	304.36
10	297.82
11	291.27
12	284.73
13	278.18

14	271.64
15	265.09
16	258.55
17	252.0
18	245.45
19	238.91
20	232.36
21	225.82
22	219.27
23	212.73
24	206.18
25	199.64
26	193.09
27	186.55
28	180.0
29	173.45
30	166.91
31	160.36
32	153.82
33	147.27
34	140.73
35	134.18
36	127.64
37	121.09
38	114.55
39	108.0

40	101.45
41	94.91
42	88.36
43	81.82
44	75.27
45	68.73
46	62.18
47	55.64
48	49.09
49	42.55
50	36.0
51	29.45
52	22.91
53	16.36
54	9.82
55	3.27

Orbital Plane 35:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	173.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.45
2	346.91
3	340.36
4	333.82
5	327.27
6	320.73
7	314.18
8	307.64
9	301.09
10	294.55
11	288.0
12	281.45
13	274.91
14	268.36
15	261.82
16	255.27
17	248.73
18	242.18
19	235.64
20	229.09
21	222.55
22	216.0

23	209.45
24	202.91
25	196.36
26	189.82
27	183.27
28	176.73
29	170.18
30	163.64
31	157.09
32	150.55
33	144.0
34	137.45
35	130.91
36	124.36
37	117.82
38	111.27
39	104.73
40	98.18
41	91.64
42	85.09
43	78.55
44	72.0
45	65.45
46	58.91
47	52.36
48	45.82

49	39.27
50	32.73
51	26.18
52	19.64
53	13.09
54	6.55
55	0.0

Orbital Plane 36:

Question	Response
Number of Satellites in Plane	55
Inclination Angle	87.9 degrees
Right Ascension of Ascending Node	178.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6600.0 seconds
Apogee	1200.0 km
Perigee	1200.0 km
Active Service Arc Begin Angle with respect to Ascending Node	-87.9 degrees
Active Service Arc End Angle with respect to Ascending Node	87.9 degrees

Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.27
2	9.82
3	16.36
4	22.91
5	29.45

6	36.0
7	42.55
8	49.09
9	55.64
10	62.18
11	68.73
12	75.27
13	81.82
14	88.36
15	94.91
16	101.45
17	108.0
18	114.55
19	121.09
20	127.64
21	134.18
22	140.73
23	147.27
24	153.82
25	160.36
26	166.91
27	173.45
28	180.0
29	186.55
30	193.09
31	199.64

32	206.18
33	212.73
34	219.27
35	225.82
36	232.36
37	238.91
38	245.45
39	252.0
40	258.55
41	265.09
42	271.64
43	278.18
44	284.73
45	291.27
46	297.82
47	304.36
48	310.91
49	317.45
50	324.0
51	330.55
52	337.09
53	343.64
54	350.18
55	356.73

Receiving Beams 1:

Question	Response
Beam ID	GUAR
Receive Beam Frequency	27500.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.6 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	11.4 dB/K
Min. Saturation Flux Density	-101.5 dBW/m ²
Max. Saturation Flux Density	-77.5 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 2:

Question	Response
Beam ID	GUBR
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.6 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	11.4 dB/K
Min. Saturation Flux Density	-101.5 dBW/m2
Max. Saturation Flux Density	-77.5 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 3:

Question	Response
Beam ID	UU
Receive Beam Frequency	14000.0 MHz -14500.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	26.0 dBi
Antenna Pointing Error	0.4 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	-1.0 dB/K
Min. Saturation Flux Density	-77.5 dBW/m2
Max. Saturation Flux Density	-77.4 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving

Beams 4:

Question	Response
Beam ID	GUAL
Receive Beam Frequency	27500.0 MHz -29100.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.6 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	11.4 dB/K
Min. Saturation Flux Density	-101.5 dBW/m2
Max. Saturation Flux Density	-77.5 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Beams 5:

Question	Response
Beam ID	GUBL
Receive Beam Frequency	29500.0 MHz -30000.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	38.0 dBi
Antenna Pointing Error	0.6 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	11.4 dB/K
Min. Saturation Flux Density	-101.5 dBW/m ²
Max. Saturation Flux Density	-77.5 dBW/m ²
Co- or Cross Polar Mode	C
Service Area Description	Global

Receiving Channels (22)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
PU2	10.0	27515.0	TT&C
PU1	10.0	27505.0	TT&C
GU5	250.0	28725.0	Feeder Link
GU4	250.0	28475.0	Feeder Link
GU3	250.0	28225.0	Feeder Link
GU2	250.0	27975.0	Feeder Link
GU1	250.0	27725.0	Feeder Link
PU10	10.0	27595.0	TT&C
PU9	10.0	27585.0	TT&C
PU8	10.0	27575.0	TT&C
PU7	10.0	27565.0	TT&C
UU2	125.0	14187.5	Service Link
UU1	125.0	14062.5	Service Link
PU3	10.0	27525.0	TT&C
PU5	10.0	27545.0	TT&C
PU6	10.0	27555.0	TT&C
GU6	250.0	28975.0	Feeder Link
GU7	250.0	29625.0	Feeder Link
GU8	250.0	29875.0	Feeder Link
UU3	125.0	14312.5	Service Link
UU4	125.0	14437.5	Service Link
PU4	10.0	27535.0	TT&C

Transmitting Beams 1:

Question	Response
Beam ID	UD
Transmit Beam Frequency	10700.0 MHz -12700.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	24.5 dBi
Antenna Pointing Error	0.4 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-49.4 dBW/Hz
Max. Transmit EIRP	34.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
4.0 kHz	-165.9	-164.4	-162.7	-160.9	-159.0	-146.0

Transmitting Beams 2:

Question	Response
Beam ID	GDAL
Transmit Beam Frequency	17800.0 MHz -18600.0 MHz

Beam Type	Steerable
Polarization	LHCP
Peak Gain	33.0 dBi
Antenna Pointing Error	0.6 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-52.0 dBW/Hz
Max. Transmit EIRP	38.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²	(dBW/m ²
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
1.0 MHz	-144.1	-135.9	-131.8	-130.8	-129.9	-124.6

Transmitting Beams 3:

Question	Response
Beam ID	GDAR
Transmit Beam Frequency	17800.0 MHz -18600.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	33.0 dBi
Antenna Pointing Error	0.6 degrees

Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-52.0 dBW/Hz
Max. Transmit EIRP	38.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW:	* 5° - 10° (dBW/m ²) /BW:	* 10° - 15° (dBW/m ²) /BW:	* 15° - 20° (dBW/m ²) /BW:	* 20° - 25° (dBW/m ²) /BW:	* 25° - 90° (dBW/m ²) /BW:
1.0 MHz	-144.1	-135.9	-131.8	-130.8	-129.9	-124.6

Transmitting Beams 4:

Question	Response
Beam ID	GDBL
Transmit Beam Frequency	18800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	LHCP
Peak Gain	33.0 dBi
Antenna Pointing Error	0.6 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-52.0 dBW/Hz

Max. Transmit EIRP	38.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5° (dBW/m ²) /BW):	* 5° - 10° (dBW/m ²) /BW):	* 10° - 15° (dBW/m ²) /BW):	* 15° - 20° (dBW/m ²) /BW):	* 20° - 25° (dBW/m ²) /BW):	* 25° - 90° (dBW/m ²) /BW):
1.0 MHz	-144.1	-135.9	-131.8	-130.8	-129.9	-124.6

Transmitting Beams 5:

Question	Response
Beam ID	GDBR
Transmit Beam Frequency	18800.0 MHz -19300.0 MHz
Beam Type	Steerable
Polarization	RHCP
Peak Gain	33.0 dBi
Antenna Pointing Error	0.6 degrees
Antenna Rotational Error	1.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-52.0 dBW/Hz
Max. Transmit EIRP	38.0 dBW
Co- or Cross Polar Mode	C
Service Area Description	Global

Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
* BW:	(dbW/m ² /BW):	(dbW/m ² /BW):	(dbW/m ² /BW):	(dbW/m ² /BW):	(dbW/m ² /BW):	(dbW/m ² /BW):
1.0 MHz	-144.1	-135.9	-131.8	-130.8	-129.9	-124.6

Transmitting Channels (26)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
PD10	3.5	19298.25	TT&C
GD1	155.0	17877.5	Feeder Link
GD2	155.0	18032.5	Feeder Link
GD3	155.0	18187.5	Feeder Link
GD4	155.0	18342.5	Feeder Link
GD5	155.0	18497.5	Feeder Link
GD6	155.0	18877.5	Feeder Link
GD7	155.0	19032.5	Feeder Link
GD8	155.0	19187.5	Feeder Link
PD1	3.5	19266.75	TT&C
PD2	3.5	19270.25	TT&C
PD3	3.5	19273.75	TT&C
PD4	3.5	19277.25	TT&C
PD5	3.5	19280.75	TT&C
PD6	3.5	19284.25	TT&C
PD7	3.5	19287.75	TT&C
PD8	3.5	19291.25	TT&C
PD9	3.5	19294.75	TT&C
UD1	250.0	10825.0	Service Link
UD2	250.0	11075.0	Service Link
UD3	250.0	11325.0	Service Link
UD4	250.0	11575.0	Service Link
UD5	250.0	11825.0	Service Link
UD6	250.0	12075.0	Service Link

UD7	250.0	12325.0	Service Link
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UD8	250.0	12575.0	Service Link
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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
<u>Beam GDBR.gxt</u>	GDBR	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GDBL.gxt</u>	GDBL	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GDAR.gxt</u>	GDAR	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GDAL.gxt</u>	GDAL	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GUBR.gxt</u>	GUBR	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GUBL.gxt</u>	GUBL	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GUAR.gxt</u>	GUAR	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam GUAL.gxt</u>	GUAL	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam UD.gxt</u>	UD	NGSO Antenna Gain Data	GXT file (*.gxt)	
<u>Beam UU.gxt</u>	UU	NGSO Antenna Gain Data	GXT file (*.gxt)	