



312 File Number: **SATAMD2017030100030**

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## Filing Description

Question	Response
Description	The Boeing Company requests authority to launch and operate the V-band segment of the NGSO System providing fixed satellite service in the 37.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-52.4 GHz (Earth-to-space) bands.

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## Satellite Information

Question	Response
Select Orbit Type	NGSO
Space Station or Satellite Network Name	V-Band NGSO System
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 (3)**

<b>Nature of service</b>	<b>Description</b>	<b>Frequency Band(s)</b>	<b>Mode Type</b>
<b>Fixed-Satellite Service</b>		37500.0 MHz -42500.0 MHz	Transmit
<b>Fixed-Satellite Service</b>		47200.0 MHz -50200.0 MHz	Receive
<b>Fixed-Satellite Service</b>		50400.0 MHz -52400.0 MHz	Receive

**Orbital  
Information For  
Non-  
Geostationary  
Satellites**

Question	Response
Total Number of Satellites in the active constellation	2956
Orbit Epoch Date	01/01/2018
Celestial Reference Body	Earth

## Orbital Plane 1:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	348.8
2	337.5
3	326.3
4	315.0
5	303.8
6	292.5
7	281.3
8	270.0
9	258.8
10	247.5
11	236.3
12	225.0
13	213.8

14	202.5
15	191.3
16	180.0
17	168.8
18	157.5
19	146.3
20	135.0
21	123.8
22	112.5
23	101.3
24	90.0
25	78.8
26	67.5
27	56.3
28	45.0
29	33.8
30	22.5
31	11.3
32	0.0

## Orbital Plane 2:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	10.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	350.4
2	339.1
3	327.9
4	316.6
5	305.4
6	294.1
7	282.9
8	271.6
9	260.4
10	249.1
11	237.9
12	226.6
13	215.4
14	204.1
15	192.9
16	181.6
17	170.4
18	159.1
19	147.9
20	136.6

<b>21</b>	125.4
<b>22</b>	114.1
<b>23</b>	102.9
<b>24</b>	91.6
<b>25</b>	80.4
<b>26</b>	69.1
<b>27</b>	57.9
<b>28</b>	46.6
<b>29</b>	35.4
<b>30</b>	24.1
<b>31</b>	12.9
<b>32</b>	1.6

**Orbital Plane 3:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	20.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
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<b>1</b>	352.0
<b>2</b>	340.7
<b>3</b>	329.5
<b>4</b>	318.2
<b>5</b>	307.0
<b>6</b>	295.7
<b>7</b>	284.5
<b>8</b>	273.2
<b>9</b>	262.0
<b>10</b>	250.7
<b>11</b>	239.5
<b>12</b>	228.2
<b>13</b>	217.0
<b>14</b>	205.7
<b>15</b>	194.5
<b>16</b>	183.2
<b>17</b>	172.0
<b>18</b>	160.7
<b>19</b>	149.5
<b>20</b>	138.2
<b>21</b>	127.0
<b>22</b>	115.7
<b>23</b>	104.5
<b>24</b>	93.2
<b>25</b>	82.0
<b>26</b>	70.7

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<b>27</b>	59.5
<b>28</b>	48.2
<b>29</b>	37.0
<b>30</b>	25.7
<b>31</b>	14.5
<b>32</b>	3.2

### Orbital Plane 4:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	30.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	353.6
<b>2</b>	342.3
<b>3</b>	331.1
<b>4</b>	319.8
<b>5</b>	308.6
<b>6</b>	297.3

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<b>7</b>	286.1
<b>8</b>	274.8
<b>9</b>	263.6
<b>10</b>	252.3
<b>11</b>	241.1
<b>12</b>	229.8
<b>13</b>	218.6
<b>14</b>	207.3
<b>15</b>	196.1
<b>16</b>	184.8
<b>17</b>	173.6
<b>18</b>	162.3
<b>19</b>	151.1
<b>20</b>	139.8
<b>21</b>	128.6
<b>22</b>	117.3
<b>23</b>	106.1
<b>24</b>	94.8
<b>25</b>	83.6
<b>26</b>	72.3
<b>27</b>	61.1
<b>28</b>	49.8
<b>29</b>	38.6
<b>30</b>	27.3
<b>31</b>	16.1
<b>32</b>	4.8

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## Orbital Plane 5:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	41.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	355.2
2	343.9
3	332.7
4	321.4
5	310.2
6	298.9
7	287.7
8	276.4
9	265.2
10	253.9
11	242.7
12	231.4
13	220.2

14	208.9
15	197.7
16	186.4
17	175.2
18	163.9
19	152.7
20	141.4
21	130.2
22	118.9
23	107.7
24	96.4
25	85.2
26	73.9
27	62.7
28	51.4
29	40.2
30	28.9
31	17.7
32	6.4

### Orbital Plane 6:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	51.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	356.8
2	345.5
3	334.3
4	323.0
5	311.8
6	300.5
7	289.3
8	278.0
9	266.8
10	255.5
11	244.3
12	233.0
13	221.8
14	210.5
15	199.3
16	188.0
17	176.8
18	165.5
19	154.3
20	143.0

<b>21</b>	131.8
<b>22</b>	120.5
<b>23</b>	109.3
<b>24</b>	98.0
<b>25</b>	86.8
<b>26</b>	75.5
<b>27</b>	64.3
<b>28</b>	53.0
<b>29</b>	41.8
<b>30</b>	30.5
<b>31</b>	19.3
<b>32</b>	8.0

### Orbital Plane 7:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	61.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	358.4
<b>2</b>	347.1
<b>3</b>	335.9
<b>4</b>	324.6
<b>5</b>	313.4
<b>6</b>	302.1
<b>7</b>	290.9
<b>8</b>	279.6
<b>9</b>	268.4
<b>10</b>	257.1
<b>11</b>	245.9
<b>12</b>	234.6
<b>13</b>	223.4
<b>14</b>	212.1
<b>15</b>	200.9
<b>16</b>	189.6
<b>17</b>	178.4
<b>18</b>	167.1
<b>19</b>	155.9
<b>20</b>	144.6
<b>21</b>	133.4
<b>22</b>	122.1
<b>23</b>	110.9
<b>24</b>	99.6
<b>25</b>	88.4
<b>26</b>	77.1

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<b>27</b>	65.9
<b>28</b>	54.6
<b>29</b>	43.4
<b>30</b>	32.1
<b>31</b>	20.9
<b>32</b>	9.6

**Orbital Plane 8:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	72.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	0.0
<b>2</b>	348.8
<b>3</b>	337.5
<b>4</b>	326.3
<b>5</b>	315.0
<b>6</b>	303.8

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<b>7</b>	292.5
<b>8</b>	281.3
<b>9</b>	270.0
<b>10</b>	258.8
<b>11</b>	247.5
<b>12</b>	236.3
<b>13</b>	225.0
<b>14</b>	213.8
<b>15</b>	202.5
<b>16</b>	191.3
<b>17</b>	180.0
<b>18</b>	168.8
<b>19</b>	157.5
<b>20</b>	146.3
<b>21</b>	135.0
<b>22</b>	123.8
<b>23</b>	112.5
<b>24</b>	101.3
<b>25</b>	90.0
<b>26</b>	78.8
<b>27</b>	67.5
<b>28</b>	56.3
<b>29</b>	45.0
<b>30</b>	33.8
<b>31</b>	22.5
<b>32</b>	11.3

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## Orbital Plane 9:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	82.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	12.9
2	24.1
3	35.4
4	46.6
5	57.9
6	69.1
7	80.4
8	91.6
9	102.9
10	114.1
11	125.4
12	136.6
13	147.9

14	159.1
15	170.4
16	181.6
17	192.9
18	204.1
19	215.4
20	226.6
21	237.9
22	249.1
23	260.4
24	271.6
25	282.9
26	294.1
27	305.4
28	316.6
29	327.9
30	339.1
31	350.4
32	1.6

**Orbital Plane 10:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	92.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

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Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

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### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.2
2	352.0
3	340.7
4	329.5
5	318.2
6	307.0
7	295.7
8	284.5
9	273.2
10	262.0
11	250.7
12	239.5
13	228.2
14	217.0
15	205.7
16	194.5
17	183.2
18	172.0
19	160.7
20	149.5

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21	138.2
22	127.0
23	115.7
24	104.5
25	93.2
26	82.0
27	70.7
28	59.5
29	48.2
30	37.0
31	25.7
32	14.5

### Orbital Plane 11:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	102.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	4.8
<b>2</b>	353.6
<b>3</b>	342.3
<b>4</b>	331.1
<b>5</b>	319.8
<b>6</b>	308.6
<b>7</b>	297.3
<b>8</b>	286.1
<b>9</b>	274.8
<b>10</b>	263.6
<b>11</b>	252.3
<b>12</b>	241.1
<b>13</b>	229.8
<b>14</b>	218.6
<b>15</b>	207.3
<b>16</b>	196.1
<b>17</b>	184.8
<b>18</b>	173.6
<b>19</b>	162.3
<b>20</b>	151.1
<b>21</b>	139.8
<b>22</b>	128.6
<b>23</b>	117.3
<b>24</b>	106.1
<b>25</b>	94.8
<b>26</b>	83.6

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<b>27</b>	72.3
<b>28</b>	61.1
<b>29</b>	49.8
<b>30</b>	38.6
<b>31</b>	27.3
<b>32</b>	16.1

**Orbital Plane 12:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	113.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	6.4
<b>2</b>	355.2
<b>3</b>	343.9
<b>4</b>	332.7
<b>5</b>	321.4
<b>6</b>	310.2



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<b>7</b>	298.9
<b>8</b>	287.7
<b>9</b>	276.4
<b>10</b>	265.2
<b>11</b>	253.9
<b>12</b>	242.7
<b>13</b>	231.4
<b>14</b>	220.2
<b>15</b>	208.9
<b>16</b>	197.7
<b>17</b>	186.4
<b>18</b>	175.2
<b>19</b>	163.9
<b>20</b>	152.7
<b>21</b>	141.4
<b>22</b>	130.2
<b>23</b>	118.9
<b>24</b>	107.7
<b>25</b>	96.4
<b>26</b>	85.2
<b>27</b>	73.9
<b>28</b>	62.7
<b>29</b>	51.4
<b>30</b>	40.2
<b>31</b>	28.9
<b>32</b>	17.7

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## Orbital Plane 13:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	123.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	8.0
2	356.8
3	345.5
4	334.3
5	323.0
6	311.8
7	300.5
8	289.3
9	278.0
10	266.8
11	255.5
12	244.3
13	233.0

14	221.8
15	210.5
16	199.3
17	188.0
18	176.8
19	165.5
20	154.3
21	143.0
22	131.8
23	120.5
24	109.3
25	98.0
26	86.8
27	75.5
28	64.3
29	53.0
30	41.8
31	30.5
32	19.3

**Orbital Plane 14:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	133.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	9.6
2	358.4
3	347.1
4	335.9
5	324.6
6	313.4
7	302.1
8	290.9
9	279.6
10	268.4
11	257.1
12	245.9
13	234.6
14	223.4
15	212.1
16	200.9
17	189.6
18	178.4
19	167.1
20	155.9

21	144.6
22	133.4
23	122.1
24	110.9
25	99.6
26	88.4
27	77.1
28	65.9
29	54.6
30	43.4
31	32.1
32	20.9

**Orbital Plane 15:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	144.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	11.3
<b>2</b>	0.0
<b>3</b>	348.8
<b>4</b>	337.5
<b>5</b>	326.3
<b>6</b>	315.0
<b>7</b>	303.8
<b>8</b>	292.5
<b>9</b>	281.3
<b>10</b>	270.0
<b>11</b>	258.8
<b>12</b>	247.5
<b>13</b>	236.3
<b>14</b>	225.0
<b>15</b>	213.8
<b>16</b>	202.5
<b>17</b>	191.3
<b>18</b>	180.0
<b>19</b>	168.8
<b>20</b>	157.5
<b>21</b>	146.3
<b>22</b>	135.0
<b>23</b>	123.8
<b>24</b>	112.5
<b>25</b>	101.3
<b>26</b>	90.0

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<b>27</b>	78.8
<b>28</b>	67.5
<b>29</b>	56.3
<b>30</b>	45.0
<b>31</b>	33.8
<b>32</b>	22.5

**Orbital Plane 16:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	154.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	12.9
<b>2</b>	1.6
<b>3</b>	350.4
<b>4</b>	339.1
<b>5</b>	327.9
<b>6</b>	316.6

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<b>7</b>	305.4
<b>8</b>	294.1
<b>9</b>	282.9
<b>10</b>	271.6
<b>11</b>	260.4
<b>12</b>	249.1
<b>13</b>	237.9
<b>14</b>	226.6
<b>15</b>	215.4
<b>16</b>	204.1
<b>17</b>	192.9
<b>18</b>	181.6
<b>19</b>	170.4
<b>20</b>	159.1
<b>21</b>	147.9
<b>22</b>	136.6
<b>23</b>	125.4
<b>24</b>	114.1
<b>25</b>	102.9
<b>26</b>	91.6
<b>27</b>	80.4
<b>28</b>	69.1
<b>29</b>	57.9
<b>30</b>	46.6
<b>31</b>	35.4
<b>32</b>	24.1

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## Orbital Plane 17:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	164.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	14.5
2	3.2
3	352.0
4	340.7
5	329.5
6	318.2
7	307.0
8	295.7
9	284.5
10	273.2
11	262.0
12	250.7
13	239.5

14	228.2
15	217.0
16	205.7
17	194.5
18	183.2
19	172.0
20	160.7
21	149.5
22	138.2
23	127.0
24	115.7
25	104.5
26	93.2
27	82.0
28	70.7
29	59.5
30	48.2
31	37.0
32	25.7

**Orbital Plane 18:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	174.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	16.1
2	4.8
3	353.6
4	342.3
5	331.1
6	319.8
7	308.6
8	297.3
9	286.1
10	274.8
11	263.6
12	252.3
13	241.1
14	229.8
15	218.6
16	207.3
17	196.1
18	184.8
19	173.6
20	162.3

21	151.1
22	139.8
23	128.6
24	117.3
25	106.1
26	94.8
27	83.6
28	72.3
29	61.1
30	49.8
31	38.6
32	27.3

**Orbital Plane 19:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	185.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	17.7
<b>2</b>	6.4
<b>3</b>	355.2
<b>4</b>	343.9
<b>5</b>	332.7
<b>6</b>	321.4
<b>7</b>	310.2
<b>8</b>	298.9
<b>9</b>	287.7
<b>10</b>	276.4
<b>11</b>	265.2
<b>12</b>	253.9
<b>13</b>	242.7
<b>14</b>	231.4
<b>15</b>	220.2
<b>16</b>	208.9
<b>17</b>	197.7
<b>18</b>	186.4
<b>19</b>	175.2
<b>20</b>	163.9
<b>21</b>	152.7
<b>22</b>	141.4
<b>23</b>	130.2
<b>24</b>	118.9
<b>25</b>	107.7
<b>26</b>	96.4

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<b>27</b>	85.2
<b>28</b>	73.9
<b>29</b>	62.7
<b>30</b>	51.4
<b>31</b>	40.2
<b>32</b>	28.9

**Orbital Plane 20:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	195.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	19.3
<b>2</b>	8.0
<b>3</b>	356.8
<b>4</b>	345.5
<b>5</b>	334.3
<b>6</b>	323.0

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<b>7</b>	311.8
<b>8</b>	300.5
<b>9</b>	289.3
<b>10</b>	278.0
<b>11</b>	266.8
<b>12</b>	255.5
<b>13</b>	244.3
<b>14</b>	233.0
<b>15</b>	221.8
<b>16</b>	210.5
<b>17</b>	199.3
<b>18</b>	188.0
<b>19</b>	176.8
<b>20</b>	165.5
<b>21</b>	154.3
<b>22</b>	143.0
<b>23</b>	131.8
<b>24</b>	120.5
<b>25</b>	109.3
<b>26</b>	98.0
<b>27</b>	86.8
<b>28</b>	75.5
<b>29</b>	64.3
<b>30</b>	53.0
<b>31</b>	41.8
<b>32</b>	30.5

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## Orbital Plane 21:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	205.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	20.9
2	9.6
3	358.4
4	347.1
5	335.9
6	324.6
7	313.4
8	302.1
9	290.9
10	279.6
11	268.4
12	257.1
13	245.9



14	234.6
15	223.4
16	212.1
17	200.9
18	189.6
19	178.4
20	167.1
21	155.9
22	144.6
23	133.4
24	122.1
25	110.9
26	99.6
27	88.4
28	77.1
29	65.9
30	54.6
31	43.4
32	32.1

**Orbital Plane 22:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	216.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	22.5
2	11.3
3	0.0
4	348.8
5	337.5
6	326.3
7	315.0
8	303.8
9	292.5
10	281.3
11	270.0
12	258.8
13	247.5
14	236.3
15	225.0
16	213.8
17	202.5
18	191.3
19	180.0
20	168.8

21	157.5
22	146.3
23	135.0
24	123.8
25	112.5
26	101.3
27	90.0
28	78.8
29	67.5
30	56.3
31	45.0
32	33.8

**Orbital Plane 23:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	226.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	24.1
<b>2</b>	12.9
<b>3</b>	1.6
<b>4</b>	350.4
<b>5</b>	339.1
<b>6</b>	327.9
<b>7</b>	316.6
<b>8</b>	305.4
<b>9</b>	294.1
<b>10</b>	282.9
<b>11</b>	271.6
<b>12</b>	260.4
<b>13</b>	249.1
<b>14</b>	237.9
<b>15</b>	226.6
<b>16</b>	215.4
<b>17</b>	204.1
<b>18</b>	192.9
<b>19</b>	181.6
<b>20</b>	170.4
<b>21</b>	159.1
<b>22</b>	147.9
<b>23</b>	136.6
<b>24</b>	125.4
<b>25</b>	114.1
<b>26</b>	102.9

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<b>27</b>	91.6
<b>28</b>	80.4
<b>29</b>	69.1
<b>30</b>	57.9
<b>31</b>	46.6
<b>32</b>	35.4

### Orbital Plane 24:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	236.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	25.7
<b>2</b>	14.5
<b>3</b>	3.2
<b>4</b>	352.0
<b>5</b>	340.7
<b>6</b>	329.5

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<b>7</b>	318.2
<b>8</b>	307.0
<b>9</b>	295.7
<b>10</b>	284.5
<b>11</b>	273.2
<b>12</b>	262.0
<b>13</b>	250.7
<b>14</b>	239.5
<b>15</b>	228.2
<b>16</b>	217.0
<b>17</b>	205.7
<b>18</b>	194.5
<b>19</b>	183.2
<b>20</b>	172.0
<b>21</b>	160.7
<b>22</b>	149.5
<b>23</b>	138.2
<b>24</b>	127.0
<b>25</b>	115.7
<b>26</b>	104.5
<b>27</b>	93.2
<b>28</b>	82.0
<b>29</b>	70.7
<b>30</b>	59.5
<b>31</b>	48.2
<b>32</b>	37.0

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## Orbital Plane 25:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	246.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	27.3
2	16.1
3	4.8
4	353.6
5	342.3
6	331.1
7	319.8
8	308.6
9	297.3
10	286.1
11	274.8
12	263.6
13	252.3

14	241.1
15	229.8
16	218.6
17	207.3
18	196.1
19	184.8
20	173.6
21	162.3
22	151.1
23	139.8
24	128.6
25	117.3
26	106.1
27	94.8
28	83.6
29	72.3
30	61.1
31	49.8
32	38.6

**Orbital Plane 26:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	257.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds



Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	28.9
2	17.7
3	6.4
4	355.2
5	343.9
6	332.7
7	321.4
8	310.2
9	298.9
10	287.7
11	276.4
12	265.2
13	253.9
14	242.7
15	231.4
16	220.2
17	208.9
18	197.7
19	186.4
20	175.2

21	163.9
22	152.7
23	141.4
24	130.2
25	118.9
26	107.7
27	96.4
28	85.2
29	73.9
30	62.7
31	51.4
32	40.2

**Orbital Plane 27:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	267.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	30.5
<b>2</b>	19.3
<b>3</b>	8.0
<b>4</b>	356.8
<b>5</b>	345.5
<b>6</b>	334.3
<b>7</b>	323.0
<b>8</b>	311.8
<b>9</b>	300.5
<b>10</b>	289.3
<b>11</b>	278.0
<b>12</b>	266.8
<b>13</b>	255.5
<b>14</b>	244.3
<b>15</b>	233.0
<b>16</b>	221.8
<b>17</b>	210.5
<b>18</b>	199.3
<b>19</b>	188.0
<b>20</b>	176.8
<b>21</b>	165.5
<b>22</b>	154.3
<b>23</b>	143.0
<b>24</b>	131.8
<b>25</b>	120.5
<b>26</b>	109.3

<b>27</b>	98.0
<b>28</b>	86.8
<b>29</b>	75.5
<b>30</b>	64.3
<b>31</b>	53.0
<b>32</b>	41.8

**Orbital Plane 28:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	277.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	32.1
<b>2</b>	20.9
<b>3</b>	9.6
<b>4</b>	358.4
<b>5</b>	347.1
<b>6</b>	335.9

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<b>7</b>	324.6
<b>8</b>	313.4
<b>9</b>	302.1
<b>10</b>	290.9
<b>11</b>	279.6
<b>12</b>	268.4
<b>13</b>	257.1
<b>14</b>	245.9
<b>15</b>	234.6
<b>16</b>	223.4
<b>17</b>	212.1
<b>18</b>	200.9
<b>19</b>	189.6
<b>20</b>	178.4
<b>21</b>	167.1
<b>22</b>	155.9
<b>23</b>	144.6
<b>24</b>	133.4
<b>25</b>	122.1
<b>26</b>	110.9
<b>27</b>	99.6
<b>28</b>	88.4
<b>29</b>	77.1
<b>30</b>	65.9
<b>31</b>	54.6
<b>32</b>	43.4

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## Orbital Plane 29:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	288.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	33.8
2	22.5
3	11.3
4	0.0
5	348.8
6	337.5
7	326.3
8	315.0
9	303.8
10	292.5
11	281.3
12	270.0
13	258.8

14	247.5
15	236.3
16	225.0
17	213.8
18	202.5
19	191.3
20	180.0
21	168.8
22	157.5
23	146.3
24	135.0
25	123.8
26	112.5
27	101.3
28	90.0
29	78.8
30	67.5
31	56.3
32	45.0

**Orbital Plane 30:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	298.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	35.4
2	24.1
3	12.9
4	1.6
5	350.4
6	339.1
7	327.9
8	316.6
9	305.4
10	294.1
11	282.9
12	271.6
13	260.4
14	219.1
15	237.9
16	226.6
17	215.4
18	204.1
19	192.9
20	181.6



21	170.4
22	159.1
23	147.9
24	136.6
25	125.4
26	114.1
27	102.9
28	91.6
29	80.4
30	69.1
31	57.9
32	46.6

### Orbital Plane 31:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	308.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	37.0
<b>2</b>	25.7
<b>3</b>	14.5
<b>4</b>	3.2
<b>5</b>	352.0
<b>6</b>	340.7
<b>7</b>	329.5
<b>8</b>	318.2
<b>9</b>	307.0
<b>10</b>	295.7
<b>11</b>	284.5
<b>12</b>	273.2
<b>13</b>	262.0
<b>14</b>	250.7
<b>15</b>	239.5
<b>16</b>	228.2
<b>17</b>	217.0
<b>18</b>	205.7
<b>19</b>	194.5
<b>20</b>	183.2
<b>21</b>	172.0
<b>22</b>	160.7
<b>23</b>	149.5
<b>24</b>	138.2
<b>25</b>	127.0
<b>26</b>	115.7

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<b>27</b>	104.5
<b>28</b>	93.2
<b>29</b>	82.0
<b>30</b>	70.7
<b>31</b>	59.5
<b>32</b>	48.2

### Orbital Plane 32:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	318.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	38.6
<b>2</b>	27.3
<b>3</b>	16.1
<b>4</b>	4.8
<b>5</b>	353.6
<b>6</b>	342.3

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<b>7</b>	331.1
<b>8</b>	319.8
<b>9</b>	308.6
<b>10</b>	297.3
<b>11</b>	286.1
<b>12</b>	274.8
<b>13</b>	263.6
<b>14</b>	252.3
<b>15</b>	241.1
<b>16</b>	229.8
<b>17</b>	218.6
<b>18</b>	207.3
<b>19</b>	196.1
<b>20</b>	184.8
<b>21</b>	173.6
<b>22</b>	162.3
<b>23</b>	151.1
<b>24</b>	139.8
<b>25</b>	128.6
<b>26</b>	117.3
<b>27</b>	106.1
<b>28</b>	94.8
<b>29</b>	83.6
<b>30</b>	72.3
<b>31</b>	61.1
<b>32</b>	49.8

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## Orbital Plane 33:

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	329.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	40.2
2	28.9
3	17.7
4	6.4
5	355.2
6	343.9
7	332.7
8	321.4
9	310.2
10	298.9
11	287.7
12	276.4
13	265.2

14	253.9
15	242.7
16	231.4
17	220.2
18	208.9
19	197.7
20	186.4
21	175.2
22	163.9
23	152.7
24	141.4
25	130.2
26	118.9
27	107.7
28	96.4
29	208.0
30	197.7
31	62.7
32	51.4

**Orbital Plane 34:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	339.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds

Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	41.8
2	30.5
3	19.3
4	8.0
5	356.8
6	345.5
7	334.3
8	323.0
9	311.8
10	300.5
11	289.3
12	278.0
13	266.8
14	255.5
15	244.3
16	233.0
17	221.8
18	210.5
19	199.3
20	188.0

21	176.8
22	165.5
23	154.3
24	143.0
25	131.8
26	120.5
27	109.3
28	98.0
29	86.8
30	75.5
31	64.3
32	53.0

**Orbital Plane 35:**

Question	Response
Number of Satellites in Plane	32
Inclination Angle	45.0 degrees
Right Ascension of Ascending Node	349.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6345.6 seconds
Apogee	1030.0 km
Perigee	1030.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	43.4
<b>2</b>	32.1
<b>3</b>	20.9
<b>4</b>	9.6
<b>5</b>	358.4
<b>6</b>	347.1
<b>7</b>	335.9
<b>8</b>	324.6
<b>9</b>	313.4
<b>10</b>	302.1
<b>11</b>	290.9
<b>12</b>	279.6
<b>13</b>	268.4
<b>14</b>	257.1
<b>15</b>	245.9
<b>16</b>	234.6
<b>17</b>	223.4
<b>18</b>	212.1
<b>19</b>	200.9
<b>20</b>	189.6
<b>21</b>	178.4
<b>22</b>	167.1
<b>23</b>	155.9
<b>24</b>	144.6
<b>25</b>	133.4
<b>26</b>	122.1

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<b>27</b>	110.9
<b>28</b>	99.6
<b>29</b>	88.4
<b>30</b>	77.1
<b>31</b>	65.9
<b>32</b>	54.6

**Orbital Plane 36:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	352.2
<b>2</b>	344.3
<b>3</b>	336.5
<b>4</b>	328.7
<b>5</b>	320.9
<b>6</b>	313.0

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<b>7</b>	305.2
<b>8</b>	297.4
<b>9</b>	289.6
<b>10</b>	281.7
<b>11</b>	273.9
<b>12</b>	266.1
<b>13</b>	258.3
<b>14</b>	250.4
<b>15</b>	242.6
<b>16</b>	234.8
<b>17</b>	227.0
<b>18</b>	219.1
<b>19</b>	211.3
<b>20</b>	203.5
<b>21</b>	195.7
<b>22</b>	187.8
<b>23</b>	180.0
<b>24</b>	172.2
<b>25</b>	164.3
<b>26</b>	156.5
<b>27</b>	148.7
<b>28</b>	140.9
<b>29</b>	133.0
<b>30</b>	125.2
<b>31</b>	117.4
<b>32</b>	109.6

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33	101.7
34	93.9
35	86.1
36	78.3
37	70.4
38	62.6
39	54.8
40	47.0
41	39.1
42	31.3
43	23.5
44	15.7
45	7.8
46	0.0

**Orbital Plane 37:**

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	20.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
1	352.6
2	344.8
3	337.0
4	329.1
5	321.3
6	313.5
7	305.7
8	297.8
9	290.0
10	282.2
11	274.3
12	266.5
13	258.7
14	250.9
15	243.0
16	235.2
17	227.4
18	219.6
19	211.7
20	203.9
21	196.1
22	188.3
23	180.4
24	172.6
25	164.8

26	157.0
27	149.1
28	141.3
29	133.5
30	125.7
31	117.8
32	110.0
33	102.2
34	94.3
35	86.5
36	78.7
37	70.9
38	63.0
39	55.2
40	47.4
41	39.6
42	31.7
43	23.9
44	16.1
45	8.3
46	0.4

**Orbital Plane 38:**

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	40.0 degrees

Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	353.0
2	345.2
3	337.4
4	329.6
5	321.7
6	313.9
7	306.1
8	298.3
9	290.4
10	282.6
11	274.8
12	267.0
13	259.1
14	251.3
15	243.5
16	235.7
17	227.8
18	220.0

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<b>19</b>	212.2
<b>20</b>	204.3
<b>21</b>	196.5
<b>22</b>	188.7
<b>23</b>	180.9
<b>24</b>	173.0
<b>25</b>	165.2
<b>26</b>	157.4
<b>27</b>	149.6
<b>28</b>	141.7
<b>29</b>	133.9
<b>30</b>	126.1
<b>31</b>	118.3
<b>32</b>	110.4
<b>33</b>	102.6
<b>34</b>	94.8
<b>35</b>	87.0
<b>36</b>	79.1
<b>37</b>	71.3
<b>38</b>	63.5
<b>39</b>	55.7
<b>40</b>	47.8
<b>41</b>	40.0
<b>42</b>	32.2
<b>43</b>	24.3
<b>44</b>	16.5

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<b>45</b>	8.7
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<b>46</b>	0.9
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### Orbital Plane 39:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	60.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

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### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	353.5
<b>2</b>	345.7
<b>3</b>	337.8
<b>4</b>	330.0
<b>5</b>	322.2
<b>6</b>	314.3
<b>7</b>	306.5
<b>8</b>	298.7
<b>9</b>	290.9
<b>10</b>	283.0

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<b>11</b>	275.2
<b>12</b>	267.4
<b>13</b>	259.6
<b>14</b>	251.7
<b>15</b>	243.9
<b>16</b>	236.1
<b>17</b>	228.3
<b>18</b>	220.4
<b>19</b>	212.6
<b>20</b>	204.8
<b>21</b>	197.0
<b>22</b>	189.1
<b>23</b>	181.3
<b>24</b>	173.5
<b>25</b>	165.7
<b>26</b>	157.8
<b>27</b>	150.0
<b>28</b>	142.2
<b>29</b>	134.3
<b>30</b>	126.5
<b>31</b>	118.7
<b>32</b>	110.9
<b>33</b>	103.0
<b>34</b>	95.2
<b>35</b>	87.4
<b>36</b>	79.6

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<b>37</b>	71.7
<b>38</b>	63.9
<b>39</b>	56.1
<b>40</b>	48.3
<b>41</b>	40.4
<b>42</b>	32.6
<b>43</b>	24.8
<b>44</b>	17.0
<b>45</b>	9.1
<b>46</b>	1.3

### Orbital Plane 40:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	80.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	353.9
<b>2</b>	346.1

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<b>3</b>	338.3
<b>4</b>	330.4
<b>5</b>	322.6
<b>6</b>	314.8
<b>7</b>	307.0
<b>8</b>	299.1
<b>9</b>	291.3
<b>10</b>	283.5
<b>11</b>	275.7
<b>12</b>	267.8
<b>13</b>	260.0
<b>14</b>	252.2
<b>15</b>	244.3
<b>16</b>	236.5
<b>17</b>	228.7
<b>18</b>	220.9
<b>19</b>	213.0
<b>20</b>	205.2
<b>21</b>	197.4
<b>22</b>	189.6
<b>23</b>	181.7
<b>24</b>	173.9
<b>25</b>	166.1
<b>26</b>	158.3
<b>27</b>	150.4
<b>28</b>	142.6

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<b>29</b>	134.8
<b>30</b>	127.0
<b>31</b>	119.1
<b>32</b>	111.3
<b>33</b>	103.5
<b>34</b>	95.7
<b>35</b>	87.8
<b>36</b>	80.0
<b>37</b>	72.2
<b>38</b>	64.3
<b>39</b>	56.5
<b>40</b>	48.7
<b>41</b>	40.9
<b>42</b>	33.0
<b>43</b>	25.2
<b>44</b>	17.4
<b>45</b>	9.6
<b>46</b>	1.7

**Orbital Plane 41:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	100.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km

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Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

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### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	354.3
2	346.5
3	338.7
4	330.9
5	323.0
6	315.2
7	307.4
8	299.6
9	291.7
10	283.9
11	276.1
12	268.3
13	260.4
14	252.6
15	244.8
16	237.0
17	229.1
18	221.3
19	213.5
20	205.7

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<b>21</b>	197.8
<b>22</b>	190.0
<b>23</b>	182.2
<b>24</b>	174.3
<b>25</b>	166.5
<b>26</b>	158.7
<b>27</b>	150.9
<b>28</b>	143.0
<b>29</b>	135.2
<b>30</b>	127.4
<b>31</b>	119.6
<b>32</b>	111.7
<b>33</b>	103.9
<b>34</b>	96.1
<b>35</b>	88.3
<b>36</b>	80.4
<b>37</b>	72.6
<b>38</b>	64.8
<b>39</b>	57.0
<b>40</b>	49.1
<b>41</b>	41.3
<b>42</b>	33.5
<b>43</b>	25.7
<b>44</b>	17.8
<b>45</b>	10.0
<b>46</b>	2.2

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## Orbital Plane 42:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	120.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	354.8
2	347.0
3	339.1
4	331.3
5	323.5
6	315.7
7	307.8
8	300.0
9	292.2
10	284.3
11	276.5
12	268.7
13	260.9



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<b>14</b>	253.0
<b>15</b>	245.2
<b>16</b>	237.4
<b>17</b>	229.6
<b>18</b>	221.7
<b>19</b>	213.9
<b>20</b>	206.1
<b>21</b>	198.3
<b>22</b>	190.4
<b>23</b>	182.6
<b>24</b>	174.8
<b>25</b>	167.0
<b>26</b>	159.1
<b>27</b>	151.3
<b>28</b>	143.5
<b>29</b>	135.7
<b>30</b>	127.8
<b>31</b>	120.0
<b>32</b>	112.2
<b>33</b>	104.3
<b>34</b>	96.5
<b>35</b>	88.7
<b>36</b>	80.9
<b>37</b>	73.0
<b>38</b>	65.2
<b>39</b>	57.4

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<b>40</b>	49.6
<b>41</b>	41.7
<b>42</b>	33.9
<b>43</b>	26.1
<b>44</b>	18.3
<b>45</b>	10.4
<b>46</b>	2.6

### Orbital Plane 43:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	140.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	355.2
<b>2</b>	347.4
<b>3</b>	339.6
<b>4</b>	331.7
<b>5</b>	323.9

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<b>6</b>	316.1
<b>7</b>	308.3
<b>8</b>	300.4
<b>9</b>	292.6
<b>10</b>	284.8
<b>11</b>	277.0
<b>12</b>	269.1
<b>13</b>	261.3
<b>14</b>	253.5
<b>15</b>	245.7
<b>16</b>	237.8
<b>17</b>	230.0
<b>18</b>	222.2
<b>19</b>	214.3
<b>20</b>	206.5
<b>21</b>	198.7
<b>22</b>	190.9
<b>23</b>	183.0
<b>24</b>	175.2
<b>25</b>	167.4
<b>26</b>	159.6
<b>27</b>	151.7
<b>28</b>	143.9
<b>29</b>	136.1
<b>30</b>	128.3
<b>31</b>	120.4

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<b>32</b>	112.6
<b>33</b>	104.8
<b>34</b>	97.0
<b>35</b>	89.1
<b>36</b>	81.3
<b>37</b>	73.5
<b>38</b>	65.7
<b>39</b>	57.8
<b>40</b>	50.0
<b>41</b>	42.2
<b>42</b>	34.3
<b>43</b>	26.5
<b>44</b>	18.7
<b>45</b>	10.9
<b>46</b>	3.0

**Orbital Plane 44:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	160.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.5
2	11.3
3	19.1
4	27.0
5	34.8
6	42.6
7	50.4
8	58.3
9	66.1
10	73.9
11	81.7
12	89.6
13	97.4
14	105.2
15	113.0
16	120.9
17	128.7
18	136.5
19	114.3
20	125.2
21	160.0
22	167.8
23	175.7
24	183.5

25	191.3
26	199.1
27	207.0
28	214.8
29	222.6
30	230.4
31	238.3
32	246.1
33	253.9
34	261.7
35	269.6
36	277.4
37	285.2
38	355.7
39	347.8
40	340.0
41	332.2
42	324.3
43	316.5
44	308.7
45	300.9
46	293.0

**Orbital Plane 45:**

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees

Right Ascension of Ascending Node	180.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	11.7
2	19.6
3	27.4
4	35.2
5	43.0
6	50.9
7	58.7
8	66.5
9	74.3
10	82.2
11	90.0
12	97.8
13	105.7
14	113.5
15	121.3
16	129.1
17	137.0

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<b>18</b>	144.8
<b>19</b>	152.6
<b>20</b>	160.4
<b>21</b>	168.3
<b>22</b>	176.1
<b>23</b>	183.9
<b>24</b>	191.7
<b>25</b>	199.6
<b>26</b>	207.4
<b>27</b>	215.2
<b>28</b>	223.0
<b>29</b>	230.9
<b>30</b>	238.7
<b>31</b>	246.5
<b>32</b>	254.3
<b>33</b>	262.2
<b>34</b>	270.0
<b>35</b>	277.8
<b>36</b>	285.7
<b>37</b>	293.5
<b>38</b>	301.3
<b>39</b>	309.1
<b>40</b>	317.0
<b>41</b>	324.8
<b>42</b>	332.6
<b>43</b>	340.4

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<b>44</b>	348.3
<b>45</b>	356.1
<b>46</b>	3.9

## Orbital Plane 46:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	200.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	356.5
<b>2</b>	348.7
<b>3</b>	340.9
<b>4</b>	333.0
<b>5</b>	325.2
<b>6</b>	317.4
<b>7</b>	309.6
<b>8</b>	301.7
<b>9</b>	293.9

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<b>10</b>	286.1
<b>11</b>	278.3
<b>12</b>	270.4
<b>13</b>	262.6
<b>14</b>	254.8
<b>15</b>	247.0
<b>16</b>	239.1
<b>17</b>	231.3
<b>18</b>	223.5
<b>19</b>	215.7
<b>20</b>	207.8
<b>21</b>	200.0
<b>22</b>	192.2
<b>23</b>	184.3
<b>24</b>	176.5
<b>25</b>	168.7
<b>26</b>	160.9
<b>27</b>	153.0
<b>28</b>	145.2
<b>29</b>	137.4
<b>30</b>	129.6
<b>31</b>	121.7
<b>32</b>	113.9
<b>33</b>	106.1
<b>34</b>	98.3
<b>35</b>	90.4

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<b>36</b>	82.6
<b>37</b>	74.8
<b>38</b>	67.0
<b>39</b>	59.1
<b>40</b>	51.3
<b>41</b>	43.5
<b>42</b>	35.7
<b>43</b>	27.8
<b>44</b>	20.0
<b>45</b>	12.2
<b>46</b>	4.3

**Orbital Plane 47:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	220.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
1	357.0

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<b>2</b>	349.1
<b>3</b>	341.3
<b>4</b>	333.5
<b>5</b>	325.7
<b>6</b>	317.8
<b>7</b>	310.0
<b>8</b>	302.2
<b>9</b>	294.3
<b>10</b>	286.5
<b>11</b>	278.7
<b>12</b>	270.9
<b>13</b>	263.0
<b>14</b>	255.2
<b>15</b>	247.4
<b>16</b>	239.6
<b>17</b>	231.7
<b>18</b>	223.9
<b>19</b>	216.1
<b>20</b>	208.3
<b>21</b>	200.4
<b>22</b>	192.6
<b>23</b>	184.8
<b>24</b>	177.0
<b>25</b>	169.1
<b>26</b>	161.3
<b>27</b>	153.5

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<b>28</b>	145.7
<b>29</b>	137.8
<b>30</b>	130.0
<b>31</b>	122.2
<b>32</b>	114.3
<b>33</b>	106.5
<b>34</b>	98.7
<b>35</b>	90.9
<b>36</b>	83.0
<b>37</b>	75.2
<b>38</b>	67.4
<b>39</b>	59.6
<b>40</b>	51.7
<b>41</b>	43.9
<b>42</b>	36.1
<b>43</b>	28.3
<b>44</b>	20.4
<b>45</b>	12.6
<b>46</b>	4.8

**Orbital Plane 48:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	240.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds

Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	357.4
2	349.6
3	341.7
4	333.9
5	326.1
6	318.3
7	310.4
8	302.6
9	294.8
10	287.0
11	279.1
12	271.3
13	263.5
14	255.7
15	247.8
16	240.0
17	232.2
18	224.3
19	216.5
20	208.7

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<b>21</b>	200.9
<b>22</b>	193.0
<b>23</b>	185.2
<b>24</b>	177.4
<b>25</b>	169.6
<b>26</b>	161.7
<b>27</b>	153.9
<b>28</b>	146.1
<b>29</b>	138.3
<b>30</b>	130.4
<b>31</b>	122.6
<b>32</b>	114.8
<b>33</b>	107.0
<b>34</b>	99.1
<b>35</b>	91.3
<b>36</b>	83.5
<b>37</b>	75.7
<b>38</b>	67.8
<b>39</b>	60.0
<b>40</b>	52.2
<b>41</b>	44.3
<b>42</b>	36.5
<b>43</b>	28.7
<b>44</b>	20.9
<b>45</b>	13.0
<b>46</b>	5.2

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## Orbital Plane 49:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	260.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	357.8
2	350.0
3	342.2
4	334.3
5	326.5
6	318.7
7	310.9
8	303.0
9	295.2
10	287.4
11	279.6
12	271.7
13	263.9



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<b>14</b>	256.1
<b>15</b>	248.3
<b>16</b>	240.4
<b>17</b>	232.6
<b>18</b>	224.8
<b>19</b>	217.0
<b>20</b>	209.1
<b>21</b>	201.3
<b>22</b>	193.5
<b>23</b>	185.7
<b>24</b>	177.8
<b>25</b>	170.0
<b>26</b>	162.2
<b>27</b>	154.3
<b>28</b>	146.5
<b>29</b>	138.7
<b>30</b>	130.9
<b>31</b>	123.0
<b>32</b>	115.2
<b>33</b>	107.4
<b>34</b>	99.6
<b>35</b>	91.7
<b>36</b>	83.9
<b>37</b>	76.1
<b>38</b>	68.3
<b>39</b>	60.4

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<b>40</b>	52.6
<b>41</b>	44.8
<b>42</b>	37.0
<b>43</b>	29.1
<b>44</b>	21.3
<b>45</b>	13.5
<b>46</b>	5.7

**Orbital Plane 50:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	280.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	358.3
<b>2</b>	350.4
<b>3</b>	342.6
<b>4</b>	334.8
<b>5</b>	327.0

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<b>6</b>	319.1
<b>7</b>	311.3
<b>8</b>	303.5
<b>9</b>	295.7
<b>10</b>	287.8
<b>11</b>	280.0
<b>12</b>	272.2
<b>13</b>	264.3
<b>14</b>	256.5
<b>15</b>	248.7
<b>16</b>	240.9
<b>17</b>	233.0
<b>18</b>	225.2
<b>19</b>	217.4
<b>20</b>	209.6
<b>21</b>	201.7
<b>22</b>	193.9
<b>23</b>	186.1
<b>24</b>	178.3
<b>25</b>	170.4
<b>26</b>	162.6
<b>27</b>	154.8
<b>28</b>	147.0
<b>29</b>	139.1
<b>30</b>	131.3
<b>31</b>	123.5

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<b>32</b>	115.7
<b>33</b>	107.8
<b>34</b>	100.0
<b>35</b>	92.2
<b>36</b>	84.3
<b>37</b>	76.5
<b>38</b>	68.7
<b>39</b>	60.9
<b>40</b>	53.0
<b>41</b>	45.2
<b>42</b>	37.4
<b>43</b>	29.6
<b>44</b>	21.7
<b>45</b>	13.9
<b>46</b>	6.1

**Orbital Plane 51:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	300.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	358.7
2	350.9
3	343.0
4	335.2
5	327.4
6	319.6
7	311.7
8	303.9
9	296.1
10	288.3
11	280.4
12	272.6
13	264.8
14	257.0
15	249.1
16	241.3
17	233.5
18	225.7
19	217.8
20	210.0
21	202.2
22	194.3
23	186.5
24	178.7

25	170.9
26	163.0
27	155.2
28	147.4
29	139.6
30	131.7
31	123.9
32	116.1
33	108.3
34	100.4
35	92.6
36	84.8
37	77.0
38	69.1
39	61.3
40	53.5
41	45.7
42	37.8
43	30.0
44	22.2
45	14.3
46	6.5

**Orbital Plane 52:**

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees

Right Ascension of Ascending Node	320.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	359.1
2	351.3
3	343.5
4	335.7
5	327.8
6	320.0
7	312.2
8	304.3
9	269.5
10	288.7
11	280.9
12	273.0
13	265.2
14	257.4
15	249.6
16	241.7
17	233.9

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<b>18</b>	226.1
<b>19</b>	218.3
<b>20</b>	210.4
<b>21</b>	202.6
<b>22</b>	194.8
<b>23</b>	187.0
<b>24</b>	179.1
<b>25</b>	171.3
<b>26</b>	163.5
<b>27</b>	155.7
<b>28</b>	147.8
<b>29</b>	140.0
<b>30</b>	132.2
<b>31</b>	124.3
<b>32</b>	116.5
<b>33</b>	108.7
<b>34</b>	100.9
<b>35</b>	93.0
<b>36</b>	85.2
<b>37</b>	77.4
<b>38</b>	69.6
<b>39</b>	61.7
<b>40</b>	53.9
<b>41</b>	46.1
<b>42</b>	38.3
<b>43</b>	30.4

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<b>44</b>	22.6
<b>45</b>	14.8
<b>46</b>	7.0

### Orbital Plane 53:

Question	Response
Number of Satellites in Plane	46
Inclination Angle	55.0 degrees
Right Ascension of Ascending Node	340.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6412.6 seconds
Apogee	1082.0 km
Perigee	1082.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	359.6
<b>2</b>	351.7
<b>3</b>	343.9
<b>4</b>	336.1
<b>5</b>	328.3
<b>6</b>	320.4
<b>7</b>	312.6
<b>8</b>	304.8
<b>9</b>	297.0

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<b>10</b>	289.1
<b>11</b>	281.3
<b>12</b>	273.5
<b>13</b>	265.7
<b>14</b>	257.8
<b>15</b>	250.0
<b>16</b>	242.2
<b>17</b>	234.3
<b>18</b>	226.5
<b>19</b>	218.7
<b>20</b>	210.9
<b>21</b>	203.0
<b>22</b>	195.2
<b>23</b>	187.4
<b>24</b>	179.6
<b>25</b>	171.7
<b>26</b>	163.9
<b>27</b>	156.1
<b>28</b>	148.3
<b>29</b>	140.4
<b>30</b>	132.6
<b>31</b>	124.8
<b>32</b>	117.0
<b>33</b>	109.1
<b>34</b>	101.3
<b>35</b>	93.5

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<b>36</b>	85.7
<b>37</b>	77.8
<b>38</b>	70.0
<b>39</b>	62.2
<b>40</b>	54.3
<b>41</b>	46.5
<b>42</b>	38.7
<b>43</b>	30.9
<b>44</b>	23.0
<b>45</b>	15.2
<b>46</b>	7.4

**Orbital Plane 54:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	0.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
1	352.5

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<b>2</b>	345.0
<b>3</b>	337.5
<b>4</b>	330.0
<b>5</b>	322.5
<b>6</b>	315.0
<b>7</b>	307.5
<b>8</b>	300.0
<b>9</b>	292.5
<b>10</b>	285.0
<b>11</b>	277.5
<b>12</b>	270.0
<b>13</b>	262.5
<b>14</b>	255.0
<b>15</b>	247.5
<b>16</b>	240.0
<b>17</b>	232.5
<b>18</b>	225.0
<b>19</b>	217.5
<b>20</b>	210.0
<b>21</b>	202.5
<b>22</b>	195.0
<b>23</b>	187.5
<b>24</b>	180.0
<b>25</b>	172.5
<b>26</b>	165.0
<b>27</b>	157.5

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28	150.0
29	142.5
30	135.0
31	127.5
32	120.0
33	112.5
34	105.0
35	97.5
36	90.0
37	82.5
38	75.0
39	67.5
40	60.0
41	52.5
42	45.0
43	37.5
44	30.0
45	22.5
46	15.0
47	7.5
48	0.0

**Orbital Plane 55:**

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	8.8 degrees

Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	354.4
2	346.9
3	339.4
4	331.9
5	324.4
6	316.9
7	309.4
8	301.9
9	294.4
10	286.9
11	279.4
12	271.9
13	264.4
14	256.9
15	249.4
16	241.9
17	234.4
18	226.9

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<b>19</b>	219.4
<b>20</b>	211.9
<b>21</b>	204.4
<b>22</b>	196.9
<b>23</b>	189.4
<b>24</b>	181.9
<b>25</b>	174.4
<b>26</b>	166.9
<b>27</b>	159.4
<b>28</b>	151.9
<b>29</b>	144.4
<b>30</b>	136.9
<b>31</b>	129.4
<b>32</b>	121.9
<b>33</b>	114.4
<b>34</b>	106.9
<b>35</b>	99.4
<b>36</b>	91.9
<b>37</b>	84.4
<b>38</b>	76.9
<b>39</b>	69.4
<b>40</b>	61.9
<b>41</b>	54.4
<b>42</b>	46.9
<b>43</b>	39.4
<b>44</b>	31.9

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<b>45</b>	24.4
<b>46</b>	16.9
<b>47</b>	9.4
<b>48</b>	1.9

### Orbital Plane 56:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	17.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	356.3
<b>2</b>	348.8
<b>3</b>	341.3
<b>4</b>	333.8
<b>5</b>	326.3
<b>6</b>	318.8
<b>7</b>	311.3
<b>8</b>	303.8



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<b>9</b>	296.3
<b>10</b>	288.8
<b>11</b>	281.3
<b>12</b>	273.8
<b>13</b>	266.3
<b>14</b>	258.8
<b>15</b>	251.3
<b>16</b>	243.8
<b>17</b>	236.3
<b>18</b>	228.8
<b>19</b>	221.3
<b>20</b>	213.8
<b>21</b>	206.3
<b>22</b>	198.8
<b>23</b>	191.3
<b>24</b>	183.8
<b>25</b>	176.3
<b>26</b>	168.8
<b>27</b>	161.3
<b>28</b>	153.8
<b>29</b>	146.3
<b>30</b>	138.8
<b>31</b>	131.3
<b>32</b>	123.8
<b>33</b>	116.3
<b>34</b>	108.8

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35	101.3
36	93.8
37	86.3
38	78.8
39	71.3
40	63.8
41	56.3
42	48.8
43	41.3
44	33.8
45	26.3
46	18.8
47	11.3
48	3.8

**Orbital Plane 57:**

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	26.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	358.1
2	350.6
3	343.1
4	335.6
5	328.1
6	320.6
7	313.1
8	305.6
9	298.1
10	290.6
11	283.1
12	275.6
13	268.1
14	260.6
15	253.1
16	245.6
17	238.1
18	230.6
19	223.1
20	215.6
21	208.1
22	200.6
23	193.1
24	185.6
25	178.1

26	170.6
27	163.1
28	155.6
29	148.1
30	140.6
31	133.1
32	125.6
33	118.1
34	110.6
35	103.1
36	95.6
37	88.1
38	80.6
39	73.1
40	65.6
41	58.1
42	50.6
43	43.1
44	35.6
45	28.1
46	20.6
47	13.1
48	5.6

**Orbital Plane 58:**

Question	Response
Number of Satellites in Plane	48

Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	35.2 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	0.0
2	352.5
3	345.0
4	337.5
5	330.0
6	322.5
7	315.0
8	307.5
9	300.0
10	292.5
11	285.0
12	277.5
13	270.0
14	262.5
15	255.0
16	247.5

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<b>17</b>	240.0
<b>18</b>	232.5
<b>19</b>	225.0
<b>20</b>	217.5
<b>21</b>	210.0
<b>22</b>	202.5
<b>23</b>	195.0
<b>24</b>	187.5
<b>25</b>	180.0
<b>26</b>	172.5
<b>27</b>	165.0
<b>28</b>	157.5
<b>29</b>	150.0
<b>30</b>	142.5
<b>31</b>	135.0
<b>32</b>	127.5
<b>33</b>	120.0
<b>34</b>	112.5
<b>35</b>	105.0
<b>36</b>	97.5
<b>37</b>	90.0
<b>38</b>	82.5
<b>39</b>	75.0
<b>40</b>	67.5
<b>41</b>	60.0
<b>42</b>	52.5

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<b>43</b>	45.0
<b>44</b>	37.5
<b>45</b>	30.0
<b>46</b>	22.5
<b>47</b>	15.0
<b>48</b>	7.5

### Orbital Plane 59:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	44.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	1.9
<b>2</b>	354.4
<b>3</b>	346.9
<b>4</b>	339.4
<b>5</b>	331.9
<b>6</b>	324.4

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<b>7</b>	316.9
<b>8</b>	309.4
<b>9</b>	301.9
<b>10</b>	294.4
<b>11</b>	286.9
<b>12</b>	279.4
<b>13</b>	271.9
<b>14</b>	264.4
<b>15</b>	256.9
<b>16</b>	249.4
<b>17</b>	241.9
<b>18</b>	234.4
<b>19</b>	226.9
<b>20</b>	219.4
<b>21</b>	211.9
<b>22</b>	204.4
<b>23</b>	196.9
<b>24</b>	189.4
<b>25</b>	181.9
<b>26</b>	174.4
<b>27</b>	166.9
<b>28</b>	159.4
<b>29</b>	151.9
<b>30</b>	144.4
<b>31</b>	136.9
<b>32</b>	129.4

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33	121.9
34	114.4
35	106.9
36	99.4
37	91.9
38	84.4
39	76.9
40	69.4
41	61.9
42	54.4
43	46.9
44	39.4
45	31.9
46	24.4
47	16.9
48	9.4

**Orbital Plane 60:**

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	52.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees

**Mean Anomaly For Each Satellite**

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	3.8
2	356.3
3	348.8
4	341.3
5	333.8
6	326.3
7	318.8
8	311.3
9	303.8
10	296.3
11	288.8
12	281.3
13	273.8
14	266.3
15	258.8
16	251.3
17	243.8
18	236.3
19	228.8
20	221.3
21	213.8
22	206.3

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<b>23</b>	198.8
<b>24</b>	191.3
<b>25</b>	183.8
<b>26</b>	176.3
<b>27</b>	168.8
<b>28</b>	161.3
<b>29</b>	153.8
<b>30</b>	146.3
<b>31</b>	138.8
<b>32</b>	131.3
<b>33</b>	123.8
<b>34</b>	116.3
<b>35</b>	108.8
<b>36</b>	101.3
<b>37</b>	93.8
<b>38</b>	86.3
<b>39</b>	78.8
<b>40</b>	71.3
<b>41</b>	63.8
<b>42</b>	56.3
<b>43</b>	48.8
<b>44</b>	41.3
<b>45</b>	33.8
<b>46</b>	26.3
<b>47</b>	18.8
<b>48</b>	11.3

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## Orbital Plane 61:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	61.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	5.6
2	358.1
3	350.6
4	343.1
5	335.6
6	328.1
7	320.6
8	313.1
9	305.6
10	298.1
11	290.6
12	283.1
13	275.6

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<b>14</b>	268.1
<b>15</b>	260.6
<b>16</b>	253.1
<b>17</b>	245.6
<b>18</b>	238.1
<b>19</b>	230.6
<b>20</b>	223.1
<b>21</b>	215.6
<b>22</b>	208.1
<b>23</b>	200.6
<b>24</b>	193.1
<b>25</b>	185.6
<b>26</b>	178.1
<b>27</b>	170.6
<b>28</b>	163.1
<b>29</b>	155.6
<b>30</b>	148.1
<b>31</b>	140.6
<b>32</b>	133.1
<b>33</b>	125.6
<b>34</b>	118.1
<b>35</b>	110.6
<b>36</b>	103.1
<b>37</b>	95.6
<b>38</b>	88.1
<b>39</b>	80.6

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<b>40</b>	73.1
<b>41</b>	65.6
<b>42</b>	58.1
<b>43</b>	50.6
<b>44</b>	43.1
<b>45</b>	35.6
<b>46</b>	28.1
<b>47</b>	20.6
<b>48</b>	13.1

**Orbital Plane 62:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	70.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	7.5
<b>2</b>	0.0
<b>3</b>	352.5

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<b>4</b>	345.0
<b>5</b>	337.5
<b>6</b>	330.0
<b>7</b>	322.5
<b>8</b>	315.0
<b>9</b>	307.5
<b>10</b>	300.0
<b>11</b>	292.5
<b>12</b>	285.0
<b>13</b>	277.5
<b>14</b>	270.0
<b>15</b>	262.5
<b>16</b>	255.0
<b>17</b>	247.5
<b>18</b>	240.0
<b>19</b>	232.5
<b>20</b>	225.0
<b>21</b>	217.5
<b>22</b>	210.0
<b>23</b>	202.5
<b>24</b>	195.0
<b>25</b>	187.5
<b>26</b>	180.0
<b>27</b>	172.5
<b>28</b>	165.0
<b>29</b>	157.5

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<b>30</b>	150.0
<b>31</b>	142.5
<b>32</b>	135.0
<b>33</b>	127.5
<b>34</b>	120.0
<b>35</b>	112.5
<b>36</b>	105.0
<b>37</b>	97.5
<b>38</b>	90.0
<b>39</b>	82.5
<b>40</b>	75.0
<b>41</b>	67.5
<b>42</b>	60.0
<b>43</b>	52.5
<b>44</b>	45.0
<b>45</b>	37.5
<b>46</b>	30.0
<b>47</b>	22.5
<b>48</b>	15.0

**Orbital Plane 63:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	79.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds



Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	9.4
2	1.9
3	354.4
4	346.9
5	339.4
6	331.9
7	324.4
8	316.9
9	309.4
10	301.9
11	294.4
12	286.9
13	279.4
14	271.9
15	264.4
16	256.9
17	249.4
18	241.9
19	234.4
20	226.9

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<b>21</b>	219.4
<b>22</b>	211.9
<b>23</b>	204.4
<b>24</b>	196.9
<b>25</b>	189.4
<b>26</b>	181.9
<b>27</b>	174.4
<b>28</b>	166.9
<b>29</b>	159.4
<b>30</b>	151.9
<b>31</b>	144.4
<b>32</b>	136.9
<b>33</b>	129.4
<b>34</b>	121.9
<b>35</b>	114.4
<b>36</b>	106.9
<b>37</b>	99.4
<b>38</b>	91.9
<b>39</b>	84.4
<b>40</b>	76.9
<b>41</b>	69.4
<b>42</b>	61.9
<b>43</b>	54.4
<b>44</b>	46.9
<b>45</b>	39.4
<b>46</b>	31.9

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<b>47</b>	24.4
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<b>48</b>	16.9
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## Orbital Plane 64:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	88.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

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## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	11.3
<b>2</b>	3.8
<b>3</b>	356.3
<b>4</b>	348.8
<b>5</b>	341.3
<b>6</b>	333.8
<b>7</b>	326.3
<b>8</b>	318.8
<b>9</b>	311.3
<b>10</b>	303.8

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<b>11</b>	296.3
<b>12</b>	288.8
<b>13</b>	281.3
<b>14</b>	273.8
<b>15</b>	266.3
<b>16</b>	258.8
<b>17</b>	251.3
<b>18</b>	243.8
<b>19</b>	236.3
<b>20</b>	228.8
<b>21</b>	221.3
<b>22</b>	213.8
<b>23</b>	206.3
<b>24</b>	198.8
<b>25</b>	191.3
<b>26</b>	183.8
<b>27</b>	176.3
<b>28</b>	168.8
<b>29</b>	161.3
<b>30</b>	153.8
<b>31</b>	146.3
<b>32</b>	138.8
<b>33</b>	131.3
<b>34</b>	123.8
<b>35</b>	116.3
<b>36</b>	108.8

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37	101.3
38	93.8
39	86.3
40	78.8
41	71.3
42	63.8
43	56.3
44	48.8
45	41.3
46	33.8
47	26.3
48	18.8

### Orbital Plane 65:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	96.9 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
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<b>1</b>	13.1
<b>2</b>	5.6
<b>3</b>	358.1
<b>4</b>	350.6
<b>5</b>	343.1
<b>6</b>	335.6
<b>7</b>	328.1
<b>8</b>	320.6
<b>9</b>	313.1
<b>10</b>	305.6
<b>11</b>	298.1
<b>12</b>	290.6
<b>13</b>	283.1
<b>14</b>	275.6
<b>15</b>	268.1
<b>16</b>	260.6
<b>17</b>	253.1
<b>18</b>	245.6
<b>19</b>	238.1
<b>20</b>	230.6
<b>21</b>	223.1
<b>22</b>	215.6
<b>23</b>	208.1
<b>24</b>	200.6
<b>25</b>	193.1
<b>26</b>	185.6

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27	178.1
28	170.6
29	163.1
30	155.6
31	148.1
32	140.6
33	133.1
34	125.6
35	118.1
36	110.6
37	103.1
38	95.6
39	88.1
40	80.6
41	73.1
42	65.6
43	58.1
44	50.6
45	43.1
46	35.6
47	28.1
48	20.6

**Orbital Plane 66:**

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees

Right Ascension of Ascending Node	105.7 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	15.0
2	7.5
3	0.0
4	352.5
5	345.0
6	337.5
7	330.0
8	322.5
9	315.0
10	307.5
11	300.0
12	292.5
13	285.0
14	277.5
15	270.0
16	262.5
17	255.0



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<b>18</b>	247.5
<b>19</b>	240.0
<b>20</b>	232.5
<b>21</b>	225.0
<b>22</b>	217.5
<b>23</b>	210.0
<b>24</b>	202.5
<b>25</b>	195.0
<b>26</b>	187.5
<b>27</b>	180.0
<b>28</b>	172.5
<b>29</b>	165.0
<b>30</b>	157.5
<b>31</b>	150.0
<b>32</b>	142.5
<b>33</b>	135.0
<b>34</b>	127.5
<b>35</b>	120.0
<b>36</b>	112.5
<b>37</b>	105.0
<b>38</b>	97.5
<b>39</b>	90.0
<b>40</b>	82.5
<b>41</b>	75.0
<b>42</b>	67.5
<b>43</b>	60.0

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<b>44</b>	52.5
<b>45</b>	45.0
<b>46</b>	37.5
<b>47</b>	30.0
<b>48</b>	22.5

### Orbital Plane 67:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	114.5 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	16.9
<b>2</b>	9.4
<b>3</b>	1.9
<b>4</b>	354.4
<b>5</b>	346.9
<b>6</b>	339.4
<b>7</b>	331.9

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<b>8</b>	324.4
<b>9</b>	316.9
<b>10</b>	309.4
<b>11</b>	301.9
<b>12</b>	294.4
<b>13</b>	286.9
<b>14</b>	279.4
<b>15</b>	271.9
<b>16</b>	264.4
<b>17</b>	256.9
<b>18</b>	249.4
<b>19</b>	241.9
<b>20</b>	234.4
<b>21</b>	226.9
<b>22</b>	219.4
<b>23</b>	211.9
<b>24</b>	204.4
<b>25</b>	196.9
<b>26</b>	189.4
<b>27</b>	181.9
<b>28</b>	174.4
<b>29</b>	166.9
<b>30</b>	159.4
<b>31</b>	151.9
<b>32</b>	144.4
<b>33</b>	136.9

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<b>34</b>	129.4
<b>35</b>	121.9
<b>36</b>	114.4
<b>37</b>	106.9
<b>38</b>	99.4
<b>39</b>	91.9
<b>40</b>	84.4
<b>41</b>	76.9
<b>42</b>	69.4
<b>43</b>	61.9
<b>44</b>	54.4
<b>45</b>	46.9
<b>46</b>	39.4
<b>47</b>	31.9
<b>48</b>	24.4

**Orbital Plane 68:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	123.3 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	18.8
2	11.3
3	3.8
4	356.3
5	348.8
6	341.3
7	333.8
8	326.3
9	318.8
10	311.3
11	303.8
12	296.3
13	288.8
14	281.3
15	273.8
16	266.3
17	258.8
18	251.3
19	243.8
20	236.3
21	228.8
22	221.3
23	213.8
24	206.3

25	198.8
26	191.3
27	183.8
28	176.3
29	168.8
30	161.3
31	153.8
32	146.3
33	138.8
34	131.3
35	123.8
36	116.3
37	108.8
38	101.3
39	93.8
40	86.3
41	78.8
42	71.3
43	63.8
44	56.3
45	48.8
46	41.3
47	33.8
48	26.3

**Orbital Plane 69:**

**Question**

**Response**

Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	132.1 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	20.6
2	13.1
3	5.6
4	358.1
5	350.6
6	343.1
7	335.6
8	328.1
9	320.6
10	313.1
11	305.6
12	298.1
13	290.6
14	283.1
15	275.6

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<b>16</b>	268.1
<b>17</b>	260.6
<b>18</b>	253.1
<b>19</b>	245.6
<b>20</b>	238.1
<b>21</b>	230.6
<b>22</b>	223.1
<b>23</b>	215.6
<b>24</b>	208.1
<b>25</b>	200.6
<b>26</b>	193.1
<b>27</b>	185.6
<b>28</b>	178.1
<b>29</b>	170.6
<b>30</b>	163.1
<b>31</b>	155.6
<b>32</b>	148.1
<b>33</b>	140.6
<b>34</b>	133.1
<b>35</b>	125.6
<b>36</b>	118.1
<b>37</b>	110.6
<b>38</b>	103.1
<b>39</b>	95.6
<b>40</b>	88.1
<b>41</b>	80.6

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<b>42</b>	73.1
<b>43</b>	65.6
<b>44</b>	58.1
<b>45</b>	50.6
<b>46</b>	43.1
<b>47</b>	35.6
<b>48</b>	28.1

**Orbital Plane 70:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	141.0 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
<b>1</b>	22.5
<b>2</b>	15.0
<b>3</b>	7.5
<b>4</b>	0.0
<b>5</b>	352.5

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<b>6</b>	345.0
<b>7</b>	337.5
<b>8</b>	330.0
<b>9</b>	322.5
<b>10</b>	315.0
<b>11</b>	307.5
<b>12</b>	300.0
<b>13</b>	292.5
<b>14</b>	285.0
<b>15</b>	277.5
<b>16</b>	270.0
<b>17</b>	262.5
<b>18</b>	255.0
<b>19</b>	247.5
<b>20</b>	240.0
<b>21</b>	232.5
<b>22</b>	225.0
<b>23</b>	217.5
<b>24</b>	210.0
<b>25</b>	202.5
<b>26</b>	195.0
<b>27</b>	187.5
<b>28</b>	180.0
<b>29</b>	172.5
<b>30</b>	165.0
<b>31</b>	157.5

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<b>32</b>	150.0
<b>33</b>	142.5
<b>34</b>	135.0
<b>35</b>	127.5
<b>36</b>	120.0
<b>37</b>	112.5
<b>38</b>	105.0
<b>39</b>	97.5
<b>40</b>	90.0
<b>41</b>	82.5
<b>42</b>	75.0
<b>43</b>	67.5
<b>44</b>	60.0
<b>45</b>	52.5
<b>46</b>	45.0
<b>47</b>	37.5
<b>48</b>	30.0

**Orbital Plane 71:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	149.8 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km

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Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

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### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	24.4
2	16.9
3	9.4
4	1.9
5	354.4
6	346.9
7	339.4
8	331.9
9	324.4
10	316.9
11	309.4
12	301.9
13	294.4
14	286.9
15	279.4
16	271.9
17	264.4
18	256.9
19	249.4
20	241.9
21	234.4

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<b>22</b>	226.9
<b>23</b>	219.4
<b>24</b>	211.9
<b>25</b>	204.4
<b>26</b>	196.9
<b>27</b>	189.4
<b>28</b>	181.9
<b>29</b>	174.4
<b>30</b>	166.9
<b>31</b>	159.4
<b>32</b>	151.9
<b>33</b>	144.4
<b>34</b>	136.9
<b>35</b>	129.4
<b>36</b>	121.9
<b>37</b>	114.4
<b>38</b>	106.9
<b>39</b>	99.4
<b>40</b>	91.9
<b>41</b>	84.4
<b>42</b>	76.9
<b>43</b>	69.4
<b>44</b>	61.9
<b>45</b>	54.4
<b>46</b>	46.9
<b>47</b>	39.4

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<b>48</b>	31.9
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## Orbital Plane 72:

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	158.6 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

## Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
<b>1</b>	26.3
<b>2</b>	18.8
<b>3</b>	11.3
<b>4</b>	3.8
<b>5</b>	356.3
<b>6</b>	348.8
<b>7</b>	341.3
<b>8</b>	333.8
<b>9</b>	326.3
<b>10</b>	318.3
<b>11</b>	311.3

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<b>12</b>	303.8
<b>13</b>	296.3
<b>14</b>	288.8
<b>15</b>	281.3
<b>16</b>	273.8
<b>17</b>	266.3
<b>18</b>	258.8
<b>19</b>	251.3
<b>20</b>	243.8
<b>21</b>	236.3
<b>22</b>	228.8
<b>23</b>	221.3
<b>24</b>	213.8
<b>25</b>	206.3
<b>26</b>	198.8
<b>27</b>	191.3
<b>28</b>	183.8
<b>29</b>	176.3
<b>30</b>	168.8
<b>31</b>	161.3
<b>32</b>	153.8
<b>33</b>	146.3
<b>34</b>	138.8
<b>35</b>	131.3
<b>36</b>	123.8
<b>37</b>	116.3

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<b>38</b>	108.8
<b>39</b>	101.3
<b>40</b>	93.8
<b>41</b>	86.3
<b>42</b>	78.8
<b>43</b>	71.3
<b>44</b>	63.8
<b>45</b>	56.3
<b>46</b>	48.8
<b>47</b>	41.3
<b>48</b>	33.8

**Orbital Plane 73:**

<b>Question</b>	<b>Response</b>
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	167.4 degrees
Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

**Mean Anomaly For Each Satellite**

<b>Satellite Number</b>	<b>Mean Anomaly (degrees) at the Orbit Epoch Date</b>
1	28.1



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<b>2</b>	20.6
<b>3</b>	13.1
<b>4</b>	5.6
<b>5</b>	358.1
<b>6</b>	350.6
<b>7</b>	343.1
<b>8</b>	335.6
<b>9</b>	328.1
<b>10</b>	320.6
<b>11</b>	313.1
<b>12</b>	305.6
<b>13</b>	298.1
<b>14</b>	290.6
<b>15</b>	283.1
<b>16</b>	275.6
<b>17</b>	268.1
<b>18</b>	260.6
<b>19</b>	253.1
<b>20</b>	245.6
<b>21</b>	238.1
<b>22</b>	230.6
<b>23</b>	223.1
<b>24</b>	215.6
<b>25</b>	208.1
<b>26</b>	200.6
<b>27</b>	193.1

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28	185.6
29	178.1
30	170.6
31	163.1
32	155.6
33	148.1
34	140.6
35	133.1
36	125.6
37	118.1
38	110.6
39	103.1
40	95.6
41	88.1
42	80.6
43	73.1
44	65.6
45	58.1
46	50.6
47	43.1
48	35.6

**Orbital Plane 74:**

Question	Response
Number of Satellites in Plane	48
Inclination Angle	88.0 degrees
Right Ascension of Ascending Node	176.2 degrees

Argument of Perigee	0.0 degrees
Orbital Period	6268.7 seconds
Apogee	970.0 km
Perigee	970.0 km
Active Service Arc Begin Angle with respect to Ascending Node	0.0 degrees
Active Service Arc End Angle with respect to Ascending Node	360.0 degrees

### Mean Anomaly For Each Satellite

Satellite Number	Mean Anomaly (degrees) at the Orbit Epoch Date
1	30.0
2	22.5
3	15.0
4	7.5
5	0.0
6	352.5
7	345.0
8	337.5
9	330.0
10	322.5
11	315.0
12	307.5
13	300.0
14	292.5
15	285.0
16	277.5
17	270.0
18	262.5

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<b>19</b>	255.0
<b>20</b>	247.5
<b>21</b>	240.0
<b>22</b>	232.5
<b>23</b>	225.0
<b>24</b>	217.5
<b>25</b>	210.0
<b>26</b>	202.5
<b>27</b>	195.0
<b>28</b>	187.5
<b>29</b>	180.0
<b>30</b>	172.5
<b>31</b>	165.0
<b>32</b>	157.5
<b>33</b>	150.0
<b>34</b>	142.5
<b>35</b>	135.0
<b>36</b>	127.5
<b>37</b>	120.0
<b>38</b>	112.5
<b>39</b>	105.0
<b>40</b>	97.5
<b>41</b>	90.0
<b>42</b>	82.5
<b>43</b>	75.0
<b>44</b>	67.5

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<b>45</b>	60.0
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<b>46</b>	52.5
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<b>47</b>	45.0
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<b>48</b>	37.5
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## Receiving Beams 1:

Question	Response
Beam ID	V2L0
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	50.9 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.2 dB/K
Min. Saturation Flux Density	-111.9 dBW/m2
Max. Saturation Flux Density	-72.1 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

## Receiving Beams 2:

Question	Response
Beam ID	V2L1
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	51.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees

Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.5 dB/K
Min. Saturation Flux Density	-110.6 dBW/m2
Max. Saturation Flux Density	-71.9 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving Beams 3:**

Question	Response
Beam ID	V2L2
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-71.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

## Receiving Beams 4:

Question	Response
Beam ID	V2L3
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	48.8 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	17.1 dB/K
Min. Saturation Flux Density	-109.8 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-69.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

## Receiving Beams 5:

Question	Response
Beam ID	V3L0
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	50.9 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	



Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.2 dB/K
Min. Saturation Flux Density	-111.9 dBW/m2
Max. Saturation Flux Density	-72.1 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving Beams 6:**

Question	Response
Beam ID	V3L1
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	51.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.5 dB/K
Min. Saturation Flux Density	-110.6 dBW/m2
Max. Saturation Flux Density	-71.9 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving Beams 7:**

Question	Response
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Beam ID	V3L2
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-71.7 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving  
Beams 8:**

Question	Response
Beam ID	V3L3
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	48.8 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

G/T at Max. Gain Point	17.1 dB/K
Min. Saturation Flux Density	-109.8 dBW/m2
Max. Saturation Flux Density	-69.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Receiving Beams 9:

Question	Response
Beam ID	V2LS
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	44.6 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	12.9 dB/K
Min. Saturation Flux Density	-105.6 dBW/m2
Max. Saturation Flux Density	-62.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Receiving Beams 10:

Question	Response
Beam ID	V3LS

Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	44.6 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	12.9 dB/K
Min. Saturation Flux Density	-105.6 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-62.0 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving  
Beams 11:**

Question	Response
Beam ID	V2LA
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees

G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-71.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Alaska

**Receiving  
Beams 12:**

Question	Response
Beam ID	V3LA
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-71.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Alaska

**Receiving  
Beams 13:**

Question	Response
Beam ID	VTLC
Receive Beam Frequency	47200.0 MHz -47450.0 MHz

Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	-25.5 dB/K
Min. Saturation Flux Density	-104.1 dBW/m2
Max. Saturation Flux Density	-69.4 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 25 deg elevation angle

**Receiving Beams 14:**

Question	Response
Beam ID	V2R0
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	50.9 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.2 dB/K
Min. Saturation Flux Density	-111.9 dBW/m2

Max. Saturation Flux Density	-72.1 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving  
Beams 15:**

Question	Response
Beam ID	V2R1
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	51.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.5 dB/K
Min. Saturation Flux Density	-110.6 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-71.9 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving  
Beams 16:**

Question	Response
Beam ID	V2R2
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable

Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-71.7 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving Beams 17:**

Question	Response
Beam ID	V2R3
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	48.8 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	17.1 dB/K
Min. Saturation Flux Density	-109.8 dBW/m2
Max. Saturation Flux Density	-69.0 dBW/m2



Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving Beams 18:**

Question	Response
Beam ID	V3R0
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	50.9 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.2 dB/K
Min. Saturation Flux Density	-111.9 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-72.1 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving Beams 19:**

Question	Response
Beam ID	V3R1
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP

Peak Gain	51.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	19.5 dB/K
Min. Saturation Flux Density	-110.6 dBW/m2
Max. Saturation Flux Density	-71.9 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving  
Beams 20:**

Question	Response
Beam ID	V3R2
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m2
Max. Saturation Flux Density	-71.7 dBW/m2
Co- or Cross Polar Mode	C

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Service Area Description	Visible Earth above 45 deg elevation angle
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## Receiving Beams 21:

Question	Response
Beam ID	V3R3
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	48.8 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	17.1 dB/K
Min. Saturation Flux Density	-109.8 dBW/m2
Max. Saturation Flux Density	-69.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

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## Receiving Beams 22:

Question	Response
Beam ID	V2RS
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	44.6 dBi

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Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	12.9 dB/K
Min. Saturation Flux Density	-105.6 dBW/m2
Max. Saturation Flux Density	-62.0 dBW/m2
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

**Receiving  
Beams 23:**

Question	Response
Beam ID	V3RS
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	44.6 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	12.9 dB/K
Min. Saturation Flux Density	-105.6 dBW/m2
Max. Saturation Flux Density	-62.0 dBW/m2
Co- or Cross Polar Mode	C

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Service Area Description	Visible Earth above 45 deg elevation angle
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**Receiving  
Beams 24:**

Question	Response
Beam ID	V2RA
Receive Beam Frequency	47200.0 MHz -50200.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-71.7 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Alaska

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**Receiving  
Beams 25:**

Question	Response
Beam ID	V3RA
Receive Beam Frequency	50400.0 MHz -52400.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi

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Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
G/T at Max. Gain Point	21.3 dB/K
Min. Saturation Flux Density	-114.0 dBW/m <sup>2</sup>
Max. Saturation Flux Density	-71.7 dBW/m <sup>2</sup>
Co- or Cross Polar Mode	C
Service Area Description	Alaska

## Receiving Channels (21)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
VS10	1000.0	51900.0	Service Link
VS09	1000.0	51900.0	Service Link
VS08	1000.0	50900.0	Service Link
VS07	1000.0	50900.0	Service Link
VS06	1000.0	49700.0	Service Link
VS05	1000.0	49700.0	Service Link
VS04	1000.0	48700.0	Service Link
VS03	1000.0	48700.0	Service Link
VS02	1000.0	47700.0	Service Link
VS01	1000.0	47700.0	Service Link
VF10	1000.0	51900.0	Feeder Link
VF09	1000.0	51900.0	Feeder Link
VF08	1000.0	50900.0	Feeder Link
VF07	1000.0	50900.0	Feeder Link
VF06	1000.0	49700.0	Feeder Link
VF05	1000.0	49700.0	Feeder Link
VF04	1000.0	48700.0	Feeder Link
VF03	1000.0	48700.0	Feeder Link
VF02	1000.0	47700.0	Feeder Link
VF01	1000.0	47700.0	Feeder Link
VTC	250.0	47325.0	TT&C

## Transmitting Beams 1:

Question	Response
Beam ID	V0L0
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.8 dBW/Hz
Max. Transmit EIRP	60.2 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

## Transmitting Beams 2:

Question	Response
Beam ID	V0L1
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz



Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.4 dBW/Hz
Max. Transmit EIRP	60.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
*	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

### Transmitting Beams 3:

Question	Response
Beam ID	V0L2
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees

Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.3 dBW/Hz
Max. Transmit EIRP	61.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

### Transmitting Beams 4:

Question	Response
Beam ID	V0L3
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	50.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-31.3 dBW/Hz

Max. Transmit EIRP	62.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )	(dBW/m <sup>2</sup> )
* BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

### Transmitting Beams 5:

Question	Response
Beam ID	VOLS
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	45.7 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.3 dBW/Hz
Max. Transmit EIRP	51.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle



<b>1.0</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0
<b>MHz</b>						

## Transmitting Beams 7:

Question	Response
Beam ID	VTLT
Transmit Beam Frequency	42450.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	5.0 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-40.5 dBW/Hz
Max. Transmit EIRP	9.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 25 deg elevation angle

## Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0</b>	-122.9	-121.7	-120.6	-119.5	-118.4	-118.4
<b>MHz</b>						

## Transmitting Beams 8:

Question	Response
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Beam ID	VTLB
Transmit Beam Frequency	42250.0 MHz -42450.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	5.5 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-53.7 dBW/Hz
Max. Transmit EIRP	15.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> ) /BW:	* 5° - 10° (dBW/m <sup>2</sup> ) /BW:	* 10° - 15° (dBW/m <sup>2</sup> ) /BW:	* 15° - 20° (dBW/m <sup>2</sup> ) /BW:	* 20° - 25° (dBW/m <sup>2</sup> ) /BW:	* 25° - 90° (dBW/m <sup>2</sup> ) /BW:
<b>1.0 MHz</b>	-137.8	-136.6	-135.3	-134.1	-132.9	-128.7

### Transmitting Beams 9:

Question	Response
Beam ID	V0R0
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP

Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.8 dBW/Hz
Max. Transmit EIRP	60.2 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
*	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0
<b>MHz</b>						

### Transmitting Beams 10:

Question	Response
Beam ID	V0R1
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.4 dBW/Hz
Max. Transmit EIRP	60.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):	(dBW/m <sup>2</sup> /BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

### Transmitting Beams 11:

Question	Response
Beam ID	V0R2
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.3 dBW/Hz
Max. Transmit EIRP	61.7 dBW
Co- or Cross Polar Mode	C



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Service Area Description

Visible Earth above 45 deg  
elevation angle

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### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0
<b>MHz</b>						

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### Transmitting Beams 12:

Question	Response
Beam ID	V0R3
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	50.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-31.3 dBW/Hz
Max. Transmit EIRP	62.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

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### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

## Transmitting Beams 13:

Question	Response
Beam ID	V0RS
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	45.7 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.3 dBW/Hz
Max. Transmit EIRP	51.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

## Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

## Transmitting Beams 14:

Question	Response
Beam ID	V0RA
Transmit Beam Frequency	37500.0 MHz -40000.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-30.2 dBW/Hz
Max. Transmit EIRP	63.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Alaska

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-120.0	-116.3	-112.5	-108.8	-105.0	-105.0

## Transmitting Beams 15:

Question	Response
Beam ID	VTRB
Transmit Beam Frequency	42250.0 MHz -42500.0 MHz

Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	5.5 dBi
Antenna Pointing Error	0.2 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-53.7 dBW/Hz
Max. Transmit EIRP	15.5 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-137.8	-136.6	-135.3	-134.1	-132.9	-128.7

### Transmitting Beams 16:

Question	Response
Beam ID	V1L0
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees

Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.8 dBW/Hz
Max. Transmit EIRP	60.2 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

### Transmitting Beams 17:

Question	Response
Beam ID	V1L1
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.4 dBW/Hz

Max. Transmit EIRP	60.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

### Transmitting Beams 18:

Question	Response
Beam ID	V1L2
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	52.98 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.3 dBW/Hz
Max. Transmit EIRP	61.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

### Transmitting Beams 19:

Question	Response
Beam ID	V1L3
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	50.22 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-31.3 dBW/Hz
Max. Transmit EIRP	62.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):

<b>1.0</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0
<b>MHz</b>						

### Transmitting Beams 20:

Question	Response
Beam ID	V1LS
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	45.7 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.3 dBW/Hz
Max. Transmit EIRP	51.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0
<b>MHz</b>						

### Transmitting Beams 21:

Question	Response
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Beam ID	V1LA
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	LHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-30.2 dBW/Hz
Max. Transmit EIRP	63.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Alaska

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> ) /BW):	* 5° - 10° (dBW/m <sup>2</sup> ) /BW):	* 10° - 15° (dBW/m <sup>2</sup> ) /BW):	* 15° - 20° (dBW/m <sup>2</sup> ) /BW):	* 20° - 25° (dBW/m <sup>2</sup> ) /BW):	* 25° - 90° (dBW/m <sup>2</sup> ) /BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

### Transmitting Beams 22:

Question	Response
Beam ID	V1R0
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP

Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.8 dBW/Hz
Max. Transmit EIRP	60.2 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
*	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0
<b>MHz</b>						

### Transmitting Beams 23:

Question	Response
Beam ID	V1R1
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	54.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	

Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-33.4 dBW/Hz
Max. Transmit EIRP	60.6 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

### Max. Power Flux Density

	* 0° - 5° (dBW/m <sup>2</sup> /BW):	* 5° - 10° (dBW/m <sup>2</sup> /BW):	* 10° - 15° (dBW/m <sup>2</sup> /BW):	* 15° - 20° (dBW/m <sup>2</sup> /BW):	* 20° - 25° (dBW/m <sup>2</sup> /BW):	* 25° - 90° (dBW/m <sup>2</sup> /BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

### Transmitting Beams 24:

Question	Response
Beam ID	V1R2
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-32.3 dBW/Hz
Max. Transmit EIRP	61.7 dBW
Co- or Cross Polar Mode	C

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Service Area Description

Visible Earth above 45 deg  
elevation angle

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### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )	(dbW/m <sup>2</sup> )
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0
<b>MHz</b>						

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### Transmitting Beams 25:

Question	Response
Beam ID	V1R3
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	50.2 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-31.3 dBW/Hz
Max. Transmit EIRP	62.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

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### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

## Transmitting Beams 26:

Question	Response
Beam ID	V1RS
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	45.7 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-42.3 dBW/Hz
Max. Transmit EIRP	51.7 dBW
Co- or Cross Polar Mode	C
Service Area Description	Visible Earth above 45 deg elevation angle

## Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

## Transmitting Beams 27:

Question	Response
Beam ID	V1RA
Transmit Beam Frequency	40000.0 MHz -42500.0 MHz
Beam Type	Both Steerable and Shapeable
Polarization	RHCP
Peak Gain	53.0 dBi
Antenna Pointing Error	0.03 degrees
Antenna Rotational Error	0.0 degrees
Polarization Switchable	
Polarization Alignment Relative to the Equatorial Plane	45.0 degrees
Max. Transmit EIRP Density	-30.2 dBW/Hz
Max. Transmit EIRP	63.8 dBW
Co- or Cross Polar Mode	C
Service Area Description	Alaska

### Max. Power Flux Density

	* 0° - 5°	* 5° - 10°	* 10° - 15°	* 15° - 20°	* 20° - 25°	* 25° - 90°
*	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>	(dBW/m <sup>2</sup>
BW:	/BW):	/BW):	/BW):	/BW):	/BW):	/BW):
<b>1.0 MHz</b>	-115.0	-112.5	-110.0	-107.5	-105.0	-105.0

## Transmitting Channels (11)

Channel ID	Channel Bandwidth (MHz)	Center Frequency s (MHz)	Feeder Link, Service Link or TT&C
VTB1	250.0	42375.0	TT&C
VF14	2500.0	41250.0	Feeder Link
VF13	2500.0	41250.0	Feeder Link
VF12	2500.0	38750.0	Feeder Link
VF11	2500.0	38750.0	Feeder Link
VS14	2500.0	41250.0	Service Link
VS13	2500.0	41250.0	Service Link
VS12	2500.0	38750.0	Service Link
VS11	2500.0	38750.0	Service Link
VTB2	200.0	42350.0	TT&C
VTT	50.0	42475.0	TT&C

## Certification Questions

Question	Response
<p>Are the applicable service area coverage requirements of 25.143(b)(2) (ii) and (iii), or 25.144(a)(3)(i), or 25.145 (c)(1) and (2), or 25.146(i)(1) and (2), or 25.148(c), or 25.225 met?</p>	<p>Yes</p>
<p>Are the applicable frequency tolerances of 25.202(e) and out-of-band emission limits of 25.202(f)(1),(2), and (3) met?</p>	<p>Yes</p>
<p>Are the cessation of emissions requirements of 25.207 met?</p>	<p>Yes</p>
<p>Are the applicable power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?</p>	<p>No</p>
<p>For NGSO applications, are the applicable equivalent-power-flux-density limits of 25.208 met, and is the appropriate technical showing provided within the application?</p>	<p>N/A</p>
<p>Are the applicable full-frequency-reuse requirements of 25.210 met?</p>	<p>Yes</p>
<p>If the application is for a 17/24 GHz BSS space station, will it be operated at an offset location with full power and interference protection in accordance with 25.262(b)?</p>	



## Attachments

File Name	Beam	Field	Attachment Type	Description
<a href="#">V2L1.gxt</a>	V2L1	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2L2.gxt</a>	V2L2	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2L0.gxt</a>	V2L0	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2L3.gxt</a>	V2L3	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V3L0.gxt</a>	V3L0	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V3L1.gxt</a>	V3L1	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V3L2.gxt</a>	V3L2	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V3L3.gxt</a>	V3L3	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2LS.gxt</a>	V2LS	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V3LS.gxt</a>	V3LS	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2LA.gxt</a>	V2LA	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V3LA.gxt</a>	V3LA	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">VTLC.gxt</a>	VTLC	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2R0.gxt</a>	V2R0	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2R1.gxt</a>	V2R1	NGSO Antenna Gain Data	GXT file (*.gxt)	
<a href="#">V2R2.gxt</a>	V2R2	NGSO Antenna Gain Data	GXT file (*.gxt)	

<u>V2R3.gxt</u>	V2R3	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V3R0.gxt</u>	V3R0	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V3R1.gxt</u>	V3R1	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V3R2.gxt</u>	V3R2	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V3R3.gxt</u>	V3R3	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V2RS.gxt</u>	V2RS	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V3RS.gxt</u>	V3RS	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V2RA.gxt</u>	V2RA	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V3RA.gxt</u>	V3RA	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0LS.gxt</u>	V0LS	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0L1.gxt</u>	V0L1	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0L0.gxt</u>	V0L0	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0R1.gxt</u>	V0R1	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>VTLB.gxt</u>	VTLB	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0R0.gxt</u>	V0R0	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0RS.gxt</u>	V0RS	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0R2.gxt</u>	V0R2	NGSO Antenna Gain Data	GXT file (*.gxt)

<u>VTRB.gxt</u>	VTRB	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0L3.gxt</u>	V0L3	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0R3.gxt</u>	V0R3	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0L2.gxt</u>	V0L2	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0LA.gxt</u>	V0LA	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>VTLT.gxt</u>	VTLT	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V0RA.gxt</u>	V0RA	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1R2.gxt</u>	V1R2	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1L0.gxt</u>	V1L0	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1L1.gxt</u>	V1L1	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1L2.gxt</u>	V1L2	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1L3.gxt</u>	V1L3	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1R3.gxt</u>	V1R3	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1LS.gxt</u>	V1LS	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1R0.gxt</u>	V1R0	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1RS.gxt</u>	V1RS	NGSO Antenna Gain Data	GXT file (*.gxt)
<u>V1R1.gxt</u>	V1R1	NGSO Antenna Gain Data	GXT file (*.gxt)

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<u>V1RA.gxt</u>	V1RA	NGSO Antenna Gain Data	GXT file (*.gxt)
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<u>V1LA.gxt</u>	V1LA	NGSO Antenna Gain Data	GXT file (*.gxt)
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