

TELESAT LOW EARTH ORBIT NON-GEOSTATIONARY SATELLITE SYSTEM

TECHNICAL APPENDIX

A.1 SCOPE AND PURPOSE

Telesat LEO U.S. Inc. (“Telesat”) is developing a low-Earth orbit (“LEO”) Ka-band non-geostationary satellite orbit (NGSO) constellation known as Telesat Lightspeed. Telesat holds a U.S. market access grant¹ in the first Ku/Ka-band processing round and has pending in the second round a modification application, as amended² (the “Second Round Modification Application”). With this present application, and pursuant to the Commission’s *Public Notice* initiating a third processing round for additional (“NGSO”)-like satellite applications,³ Telesat hereby amends its application for modification of its Grant (the “Third Round Amendment”): (i) to add a mobile-satellite service (“MSS”) designation to Telesat’s Grant so as to allow it to provide both MSS and fixed-satellite service (“FSS”) in the 19.7-20.2 GHz and 29.5-30.0

¹ Order and Declaratory Ruling, *Telesat Canada Petition for Declaratory Ruling to Grant Access to the U.S. Market for Telesat’s NGSO Constellation*, 32 FCC Rcd 9663 (2017).

² For Telesat’s initial second round application and the amendments to the application that have been accepted for filing, see *Satellite Policy Branch Information: Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01648, Telesat LEO Inc., SAT-MPL-20200526-00053, SAT-APL-20210104-00002, and SAT-APL-20220616-00059 (rel. Jul 15, 2022); *Satellite Policy Branch Information: Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01775, Telesat LEO Inc., SAT-MPL-20231026-00263 (rel. Nov. 17, 2023); *Satellite Policy Branch Information: Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01903, Telesat LEO U.S. Inc., SAT-APL-20231026-00264 (rel. Mar. 21, 2025); *Satellite Policy Branch Information: Space Station Applications Accepted for Filing*, Public Notice, Report No. SAT-01984, Telesat LEO U.S. Inc., SAT-APL-20260202-00075 (rel. Mar. 20, 2026). See also Letter of Apr. 11, 2026 from Joseph A. Godles, Attorney for Telesat LEO U.S. Inc. to Ms. Marlene H. Dortch, Secretary, FCC regarding Supplement to SAT-MPL-20200526-00053, SAT-APL-20210104-00002, SAT-APL-20220616-00059, SAT-APL-20231026-00264; and SAT-APL-20260202-0007.

³ *Space Bureau Opens Processing Rounds, Cut-Off Established for Additional NGSO-Like Satellite Systems in the Ku- and Ka-Bands and V-Band*, Public Notice, DA 26-552 (rel. June 5, 2026).

GHz bands in which Telesat is already authorized to provide FSS service; and (ii) to authorize Telesat to access the 19.3-19.7 GHz band (space-to-Earth) (the “Additional Frequencies”). This technical appendix details the associated changes to the Second Round Modification Application technical information resulting from this Third Round Amendment, to supplement the associated Schedule S.

A.2 OVERALL DESCRIPTION

There is no change to the frequency bands Telesat is requesting second round processing for in the Second Round Modification Application. In this Third Round Amendment, Telesat is requesting third round processing for the Additional Frequencies. For completeness, all frequency bands of the Second Round Modification Application, and the Additional Frequencies of this present application, are shown in Table A.2-1 below.

Telesat certifies that the technical parameters set forth in the Second Round Modification Application have not changed except as stated or referenced in this supplement. The Schedule S that is submitted with this application replaces the Schedule S currently on file with the Commission. This new Schedule S reflects the Additional Frequencies as well as a reconfiguration that was previously conveyed to the Commission⁴ whereby the frequencies 17.8-18.3 GHz and 27.5 -28.0 GHz will no longer

⁴ See Telesat LEO U.S. Inc. Supplement to ICFS File Nos. SAT-MPL-20200526-00053; SAT-APL-20210104-00002; SAT-APL-20220616-00059; SAT-APL-20231026-00264; and SAT-APL-20260202-00075

be available for user links but will continue to be available for gateway earth stations (“Landing Stations”), as also reflected in the beam descriptions in Table A.3-1.

Table A.2-1: Frequency bands

Direction	Lower Frequency Limit (GHz)	Upper Frequency Limit (GHz)
Downlink	17.8	18.3
	18.3	18.6
	18.8	19.3
	19.3	19.4
	19.4	19.6
	19.6	19.7
	19.7	20.2
Uplink	27.5	28.35
	28.35	28.6
	28.6	29.1
	29.5	30.0

19.3-19.4 GHz and 19.6-19.7 GHz Bands

Telesat’s proposed use of 19.3-19.4 GHz and 19.6-19.7 GHz bands for NGSO MSS feeder links and, on a secondary non-interference basis vis-à-vis authorized primary

users of the bands, for FSS, is consistent with the Ka-band plan.⁵ As shown in section A.4, Telesat will comply with the applicable power flux-density limits governing NGSO FSS systems and will coordinate, to the extent required, with authorized operations in these bands.

19.4-19.6 GHz

Telesat proposes to use the 19.4-19.6 GHz band for NGSO MSS feeder links for Telesat Lightspeed. Under the FCC's Ka-band plan, the 19.4-19.6 GHz band is designated for fixed services and NGSO MSS feeder links for space-to-Earth transmissions in the United States.⁶ As discussed herein, Telesat Lightspeed will, in addition to FSS, provide MSS in the 19.7-20.2 GHz and 29.5-30.0 GHz bands, and accordingly, its use of the 19.4-19.6 GHz band for MSS feeder links (space-to-Earth) conforms with the Ka-band plan.⁷

A.3 SPACE STATION ANTENNA GAIN CONTOURS

The reconfiguration of frequencies mentioned in section A.2 is reflected in the notes associated with the beams in Table A.3-1 and in the frequency ranges in Schedule S. Since all gateway beams have identical technical capabilities, as do all user beams, only one beam of each type is provided in Schedule S.

⁵ *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809 (2017).

⁶ 47 C.F.R § 2.106 NG 166. See also *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809 (2017).

⁷ Telesat does not propose to operate user links in the 19.4-19.6 GHz band.

Table A.3-1: Description of beam IDs in Schedule S

Beam Description	Beam ID	Notes
Uplink Gateway RHCP	G1P1 and G2P1	Beam ID G1P1 and G2P1, for 27.5-29.1 and 29.5-30.0 GHz, respectively
Uplink Gateway LHCP	G1P2 and G2P2	Beam ID G1P2 and G2P2, for 27.5-29.1 and 29.5-30.0 GHz, respectively
Downlink Gateway RHCP	N1P1, N2P1 and N3P1	Beam ID N1P1, N2P1 and N3P1, for 17.8-18.6, 18.8-19.7 and 19.7-20.2 GHz, respectively
Downlink Gateway LHCP	N1P2, N2P2 and N3P2	Beam ID N1P2, N2P2 and N3P2, for 17.8-18.6, 18.8-19.7 and 19.7-20.2 GHz, respectively
Uplink User beam RHCP	F1P1 and F2P1	Beam ID F1P1 and F2P1, for 28-29.1 and 29.5-30.0 GHz, respectively
Uplink User beam LHCP	F1P2 and F2P2	Beam ID F1P2 and F2P2, for 28-29.1 and 29.5-30.0 GHz, respectively
Downlink User beam RHCP	M1P1, M2P1, and M3P1	Beam ID M1P1, M2P1 and M3P1, for 18.3-18.6, 18.8-19.3 and 19.7-20.2 GHz, respectively
Downlink User beam LHCP	M1P2, M2P2, and M3P2	Beam ID M1P2, M2P2 and M3P2, for 18.3-18.6, 18.8-19.3 and 19.7-20.2 GHz, respectively

A.4 INTERFERENCE ANALYSIS

This section addresses compliance with the ITU Radio Regulations (RR) power flux-density (“PFD”) and equivalent power flux-density (“EPFD”) limits (RR Articles 21 and 22, respectively). It also provides an assessment of the interference environment relevant to the Additional Frequencies and to the requested MSS designation in the 19.7-20.2 GHz and 29.5-30.0 GHz bands.

A.4.1 No Additional Interference Created By Added MSS Designation

To the extent necessary, Telesat requests a waiver of the Commission’s Ka-band plan to add the MSS service designation. Although these frequencies are allocated for FSS and MSS domestically and internationally, an MSS service designation for these bands is not included in the Commission’s Ka-band plan.⁸ Like others granted such rights⁹, Telesat’s MSS operations will be supported exclusively by directional antennas (also used by its FSS operations) and will therefore have the same technical characteristics as its FSS earth stations in motion (“ESIMs”). Therefore, Telesat’s NGSO MSS operations will not create any additional interference; and would be

⁸ *Update to Parts 2 and 25 Concerning Non-Geostationary, Fixed-Satellite Service Systems and Related Matters*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 7809 (2017).

⁹ *Space Exploration Holdings, LLC, Request for Deployment and Operating Authority for the SpaceX Gen2 NGSO Satellite System, Application for Authority for Modification of the SpaceX NGSO Satellite System*, FCC Call sign S2992/3069, ICFS File Nos. SAT-LOA-20200526-00055, SAT-AMD-202 10818-00105, SAT-AMD-2022 1216-00175, SAT-AMD-20241017-00228, SAT-MOD-20241011-00224, Authorization and Order, DA 26-36, Fn. 15 (rel. Jan 9, 2026) (“*SpaceX Gen2 Order*”); *Kuiper Systems, LLC Application for Authority to Deploy and Operate a Ka-band Non-Geostationary Satellite Orbit System*, Order and Authorization, 35 FCC Rcd 8324, 8328-8330 (2020) (“*Amazon Order*”); *O3b Limited, Request for Modification of U.S. Market Access for O3b Limited’s Non-Geostationary Satellite Orbit System in the Fixed-Satellite Service and in the Mobile-Satellite Service*, Order and Declaratory Ruling, 33 FCC Rcd 5508, 5516 (2018) (“*O3b Order*”).

indistinguishable from Telesat's NGSO FSS operations in the 19.7-20.2 GHz and 29.5-30.0 GHz bands which would be conducted with ESIMs.

A.4.2 Compliance with Article 21 and Section 25.208 PFD limits

The Additional Frequencies will comply with applicable PFD limits in Section §25.208¹⁰ and § 25.146¹¹ of the FCC rules, as well as those in Article **21** of the ITU Radio Regulations. The applicable limits are summarized in Table A.4.1-1.

Table A.4.2-1: §25.208, § 25.146 and Article 21 PFD limits

Frequency Band (GHz)	Limit in dB(W/m ²) for angles of arrival (δ) above the horizontal plane			Reference bandwidth
	0°-5°	5°-25°	25°-90°	
17.7-19.3	-115-X	$-115-X+((10+X)/20) (\delta-5)$	-105	1 MHz
19.3-19.7	-115-X	$-115-X+((10+X)/20) (\delta-5)$	-105	1 MHz

The parameter X is a function of the number, n, of satellites:

$X = 0$	dB	for $n \leq 50$
$X = (5/119) (n - 50)$	dB	for $50 < n \leq 288$
$X = (1/69) (n + 402)$	dB	for $n > 288$

The constellation design of the Second Round Modification Application comprises 300 satellites, resulting in a value of $X = 10.17$ dB. The PFD limits (per §25.208 and Article **21**) and the calculated PFD at select angles of arrival using the

¹⁰ 47 C.F.R. §25.208

¹¹ 47 C.F.R. §25.146

Second Round Modification Application design's maximum EIRP spectral density (-50 dB(W/Hz)), are shown in Table A.4.2-2. In § 25.146(a)(1)(i), the FCC specifies that the 17.7 to 19.3 GHz Article 21 pfd limits must be complied with for applicants proposing to operate in the 19.3-19.4 GHz and 19.6-19.7 GHz bands. Table A.4.1-2 shows that the limits are met.

Table A.4.2-2: Second Round Modification Application design (Shell 3) calculated PFD, and relevant limits

Angle of arrival at the earth surface (deg)	0	5	10	15	20	25	90
Slant range (km)	4301.6	3781.4	3334.3	2956.7	2641.7	2380.8	1315.0
Second Round Modification Application PFD ¹² (dB(W/m ² /MHz))	-133.7	-132.6	-131.5	-130.4	-129.4	-128.5	-123.4
PFD limits for a 300-satellite constellation for the band 17.7-19.7 GHz (dB(W/m ² /MHz))	-125.2	-125.2	-120.1	-115.1	-110.0	-105.0	-105.0

A.4.3 Compliance with Article 22 limits

There are no limits in Article 22 that are applicable to the Additional Frequencies.

A.4.4 Assessment of interference environment

Telesat certifies that for the frequencies of the Second Round Modification Application there is no change in compliance, and that it will coordinate with all

¹² Assuming a maximum EIRP spectral density of -50 dB(W/Hz).

authorized users in the Additional Frequencies band. Telesat has extensive experience coordinating GSO networks and NGSO systems, and the Fixed-service, across its decades of operation. Telesat has in place multiple signed coordination agreements with major U.S. satellite operators and government agencies, and continues to coordinate in good faith with all authorized parties to the extent required.

A.5. LINK BUDGETS

Telesat certifies that the link budgets of the Second Round Modification Application remain applicable and are also representative of the Additional Frequencies.

A.6. ITU FILINGS AND CANADIAN AUTHORIZATION

Telesat updates the information that it has previously submitted regarding its ITU filings and Canadian authorization. Telesat operates under Canadian spectrum license #011064476. Relevant ITU filings include TELSTAR-LEO-2, TELSTAR-LEO-4, TELSTAR-LEO-G1 and TELSTAR-LEO-G2. Telesat may submit to the ITU through Canada additional ITU filings, as necessary.

A.7 SUBMISSION OF SCHEDULE S

Following the conversion of the Commission's IBFS database to ICFS, the Schedule S for Telesat Lightspeed that is available on the FCC's website electronically (the "Pre-Existing Schedule S") does not accurately reflect the current system design for

a 300-satellite system. Telesat attempted to modify the Pre-Existing Schedule S to restore its 300-satellite design, i.e., as proposed in the Second Round Modification Application, as amended, and to add the 19.3-19.7 GHz frequencies that this amendment covers.

Unfortunately, the Schedule S software did not allow Telesat to accomplish this task, and even attempting to do so generated multiple error messages that Telesat was unable to remedy within the confines of the online Schedule S program. For this reason, Telesat has created, and submits herewith as Attachment A, a PDF version of Schedule S that accurately shows Telesat Lightspeed at 300 satellites and adds the 19.3-19.7 GHz frequencies that this amendment covers.

Telesat will work with the Bureau's staff to try to remedy this problem.

If and to the extent required, Telesat seeks waiver of the Commission's Schedule S requirements to submit this information in this fashion.

**CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING
ENGINEERING INFORMATION**

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this application and that it is complete and accurate to the best of my knowledge and belief.

/s/ Mohamed Moussa

Mohamed Moussa, Ph.D.
Spectrum and Systems Engineering Specialist

ATTACHMENT A

SCHEDULE S

File Number: SAT-AMD-20260625-00252

Call Sign: S2976

S1. Satellite Information

a. Space Station or Satellite Network Name	b. Orbit Type	c. Estimated Operational Lifetime of Space Station(s) From Date of Launch (yrs)	d. Will the space station(s) operate on a Common Carrier basis?	e. Application Description
Lightspeed	Non-Geostationary (NGSO)	10	No	Amendment of Modification to add Ka band frequencies in the additional NGSO processing round.

S2. Operating Frequency Bands

a. Type of Service	b. If a. is Other, provide a service description	c. Satellite Frequency Band (MHz)	d. Satellite Frequency (Lower Band Edge) (MHz)	e. Satellite Frequency (Upper Band Edge) (MHz)	f. Direction of Transmission	g. Non Conforming Indicator
FSS		19700 - 20200	19700	20200	Space-to-Earth (Transmit)	No
FSS		Other	29500	30000	Earth-to-Space (Receive)	Yes
FSS		Other	27500	29100	Earth-to-Space (Receive)	Yes
FSS		Other	17800	18600	Space-to-Earth (Transmit)	Yes
MSS		29500 - 30000	29500	30000	Earth-to-Space (Receive)	No
MSS		19700 - 20200	19700	20200	Space-to-Earth (Transmit)	No
FSS		Other	18800	19300	Space-to-Earth (Transmit)	Yes
MSS		Other	19300	19700	Space-to-Earth (Transmit)	Yes
FSS		19300 - 19400	19300	19400	Space-to-Earth (Transmit)	No
FSS		19600 - 19700	19600	19700	Space-to-Earth (Transmit)	No

S3. NGSO Orbital Information

a. Total Number of Simultaneously Operating Satellites in Constellation	b. Total Number of Satellites Deployed During the License Term	c. Orbit Epoch Date	d. Celestial Reference Body	e. If d. is "Other", provide the name of celestial body being referenced	f. Total Number of Orbital Planes
300	300	2017-01-01	Earth		23

g. Orbital Plane Information

(i) Orbital Plane No.	(ii) Number of Satellites in Plane	(iii) Inclination Angle (°)	(iv) Inclination Angle Tolerance (+/- °)	(v) Orbital Period (seconds)	(vi) Apogee (km)	(vii) Apogee Tolerance (+/- km)	(viii) Perigee (km)	(ix) Perigee Tolerance (+/- km)	(x) Argument of Perigee (°)	(xi) Right Ascension of Ascending Node (°)	(xii) Right Ascension of Ascending Node Tolerance (+/- °)	(xiii) Active Service Arc Begin Angle with Respect to Ascending	(xiv) Active Service Arc End Angle with Respect to Ascending	(xv) Is additional info on the active service arc provided in the	(xvi) Satellite Spacing	(xvii) Phase Angle Spacing (°)	(xviii) First Satellite Initial Phase Angle (°)	(xix) Maximum Orbital Eccentricity
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												Node (°)	Node (°)	applicatio n?			
1	12	72.924	1.5	6,742	1,335	29	1,335		0	0	0.1	-90	90	No	Irregularly -Spaced		
2	12	72.924	1.5	6,742	1,335	29	1,335		0	27.6923	0.1	-90	90	No	Irregularly -Spaced		
3	12	72.924	1.5	6,742	1,335	29	1,335	29	0	55.3846	0.1	-90	90	No	Irregularly -Spaced		
4	12	72.924	1.5	6,742	1,335	29	1,335	29	0	83.0769	0.1	-90	90	No	Irregularly -Spaced		
5	12	72.924	1.5	6,742	1,335	29	1,335	29	0	110.7692	0.1	-90	90	No	Irregularly -Spaced		
6	12	72.924	1.5	6,742	1,335	29	1,335	29	0	138.4615	0.1	-90	90	No	Irregularly -Spaced		
7	12	72.924	1.5	6,742	1,335	29	1,335	29	0	166.1538	0.1	-90	90	No	Irregularly -Spaced		
8	12	72.924	1.5	6,742	1,335	29	1,335	29	0	193.8461	0.1	-90	90	No	Irregularly -Spaced		
9	12	72.924	1.5	6,742	1,335	29	1,335	29	0	221.5384	0.1	-90	90	No	Irregularly -Spaced		
10	12	72.924	1.5	6,742	1,335	29	1,335	29	0	249.2307	0.1	-90	90	No	Irregularly -Spaced		
11	12	72.924	1.5	6,742	1,335	29	1,335	29	0	276.923	0.1	-90	90	No	Irregularly -Spaced		
12	12	72.924	1.5	6,742	1,335	29	1,335	29	0	304.6153	0.1	-90	90	No	Irregularly -Spaced		
13	12	72.924	1.5	6,742	1,335	29	1,335	29	0	332.3076	0.1	-90	90	No	Irregularly -Spaced		
14	18	48.9	1.5	6,728	1,325	29	1,325	29	0	332.3076	0.1	-49	49	No	Irregularly -Spaced		
15	18	48.9	1.5	6,728	1,325	29	1,325	29	0	60	0.1	-49	49	No	Irregularly -Spaced		
16	18	48.9	1.5	6,728	1,325	29	1,325	29	0	120	0.1	-49	49	No	Irregularly -Spaced		
17	18	48.9	1.5	6,728	1,325	29	1,325	29	0	180	0.1	-49	49	No	Irregularly -Spaced		
18	18	48.9	1.5	6,728	1,325	29	1,325	29	0	240	0.1	-49	49	No	Irregularly -Spaced		
19	18	48.9	1.5	6,728	1,325	29	1,325	29	90	300	0.1	-49	49	No	Irregularly -Spaced		
20	9	31	1.5	6,715	1,315	29	1,315	29	90	0	0.1	-31	31	No	Irregularly -Spaced		
21	9	31	1.5	6,715	1,315	29	1,315	29	90	90	0.1	-31	31	No	Irregularly -Spaced		
22	9	31	1.5	6,715	1,315	29	1,315	29	90	180	0.1	-31	31	No	Irregularly -Spaced		
23	9	31	1.5	6,715	1,315	29	1,315	29	90	270	0.1	-31	31	No	Irregularly -Spaced		

h. Initial Phase Angle Information

(i) Orbital Plane No.	(i) Satellite No.	(ii) Initial Phase Angle (°)
1	1	0
1	2	16.3636
1	3	32.7273
1	4	65.4545
1	5	98.1818
1	6	130.909
1	7	163.6363
1	8	196.3636
1	9	229.0909
1	10	261.8181
1	11	327.2727
1	12	294.5454
2	1	297.0629
2	2	264.3356
2	3	231.6083
2	4	198.8811
2	5	166.1538
2	6	133.4265
2	7	117.0629
2	8	100.6993
2	9	67.972
2	10	35.2448
2	11	2.5175
2	12	329.7902
3	1	297.0629
3	2	264.3356
3	3	231.6083
3	4	198.8811
3	5	166.1538
3	6	133.4265
3	7	117.0629
3	8	100.6993
3	9	67.972
3	10	35.2448
3	11	2.5175
3	12	329.7902
4	1	203.916

4	2	171.1888
4	3	138.4615
4	4	105.7342
4	5	73.007
4	6	40.2797
4	7	7.5524
4	8	334.8251
4	9	318.4615
4	10	302.0979
4	11	269.3706
4	12	236.6433
5	1	173.7062
5	2	206.4335
5	3	239.1608
5	4	140.979
5	5	108.2517
5	6	75.5245
5	7	59.1608
5	8	42.7972
5	9	10.0699
5	10	337.3426
5	11	304.6153
5	12	271.8881
6	1	143.4965
6	2	159.8601
6	3	176.2237
6	4	110.7692
6	5	78.042
6	6	45.3147
6	7	12.5874
6	8	339.8601
6	9	307.1328
6	10	274.4055
6	11	241.6783
6	12	208.951
7	1	47.8322
7	2	80.5594
7	3	113.2867
7	4	146.0139
7	5	178.7412
7	6	211.4685
7	7	244.1958
7	8	260.5594

7	9	276.923
7	10	309.6503
7	11	342.3776
7	12	15.1049
8	1	47.8322
8	2	80.5594
8	3	113.2867
8	4	146.0139
8	5	178.7412
8	6	211.4685
8	7	244.1958
8	8	260.5594
8	9	276.923
8	10	309.6503
8	11	342.3776
8	12	15.1049
9	1	20.1399
9	2	52.8671
9	3	85.5944
9	4	101.958
9	5	118.3216
9	6	151.0489
9	7	183.7762
9	8	216.5034
9	9	249.2307
9	10	281.958
9	11	314.6853
9	12	347.4125
10	1	284.4755
10	2	251.7482
10	3	219.0209
10	4	101.958
10	5	186.2937
10	6	153.5664
10	7	120.8391
10	8	88.1119
10	9	55.3846
10	10	22.6573
10	11	349.93
10	12	317.2027
11	1	221.5384
11	2	188.8111
11	3	156.0839

11	4	123.3566
11	5	90.6294
11	6	57.9021
11	7	25.1748
11	8	352.4475
11	9	319.7202
11	10	303.3566
11	11	286.993
11	12	254.2657
12	1	191.3286
12	2	158.6013
12	3	125.8741
12	4	93.1469
12	5	60.4196
12	6	44.0559
12	7	27.6923
12	8	354.965
12	9	322.2377
12	10	289.5104
12	11	256.7832
12	12	224.0559
13	1	144.7552
13	2	128.3916
13	3	95.6643
13	4	62.9371
13	5	30.2098
13	6	357.4825
13	7	324.7552
13	8	292.0279
13	9	259.3006
13	10	226.5734
13	11	193.8461
13	12	161.1188
14	1	53.333
14	2	40
14	3	13.333
14	4	0
14	5	333.333
14	6	320
14	7	293.333
14	8	280
14	9	253.333
14	10	240

14	11	213.333
14	12	200
14	13	173.333
14	14	160
14	15	133.333
14	16	120
14	17	93.333
14	18	80
15	1	306.667
15	2	280
15	3	266.667
15	4	240
15	5	226.667
15	6	200
15	7	186.667
15	8	160
15	9	146.667

15	10	120
15	11	106.667
15	12	80
15	13	66.667
15	14	40
15	15	26.667
15	16	360
15	17	346.667
15	18	320
16	1	253.333
16	2	266.667
16	3	293.333
16	4	306.667
16	5	333.333
16	6	346.667
16	7	13.333
16	8	26.667
16	9	53.333
16	10	66.667
16	11	93.333
16	12	106.667
16	13	133.333
16	14	146.667
16	15	226.667

16	16	213.333
16	17	186.667
16	18	173.333
17	1	80
17	2	93.333
17	3	120
17	4	133.333
17	5	160
17	6	173.333
17	7	53.333
17	8	40
17	9	13.333
17	10	360
17	11	333.333
17	12	320
17	13	293.333
17	14	280.333
17	15	253.333
17	16	240
17	17	213.333
17	18	200
18	1	146.667
18	2	160
18	3	186.667
18	4	200
18	5	226.667
18	6	240
18	7	266.667
18	8	280
18	9	306.667
18	10	320
18	11	346.667
18	12	360
18	13	120
18	14	106.667
18	15	80
18	16	66.667
18	17	40
18	18	26.667
19	1	66.667
19	2	53.333
19	3	26.667
19	4	13.333

19	5	346.667
19	6	333.333
19	7	306.667
19	8	293.333
19	9	266.667
19	10	253.333
19	11	226.667
19	12	213.333
19	13	186.667
19	14	173.333
19	15	146.667
19	16	133.333
19	17	106.667
19	18	93.333
20	1	320
20	2	280
20	3	240
20	4	200
20	5	160
20	6	120
20	7	80
20	8	40
20	9	0
21	1	220
21	2	180
21	3	140
21	4	100
21	5	60
21	6	20
21	7	340
21	8	300
21	9	260
22	1	120
22	2	80
22	3	40
22	4	360
22	5	320
22	6	280
22	7	240
22	8	200
22	9	160
23	1	20
23	2	340

23	3	300
23	4	260
23	5	220
23	6	180
23	7	140
23	8	100
23	9	60

S4. Earth-to-Space (Receive) Beams

a. Beam ID:	F2P1	n. Beam Peak Flux Density at Command Threshold (dBW/m ²):	
b. Beam Frequency (Lower Band Edge) (MHz):	29500	o. Peak Isotropic Antenna Gain (dBi):	32.7
c. Beam Frequency (Upper Band Edge) (MHz):	30000	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0

f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	6.4	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	0.9		
l. Maximum Saturation Flux Density (dBW/m ²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m ²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
U2	500	29750	29500	30000	Service Link	
TC7	1	29998	29997.5	29998.5	TT&C	
TC5	1	29501	29500.5	29501.5	TT&C	
TC6	1	29502	29501.5	29502.5	TT&C	
TC8	1	29999	29998.5	29999.5	TT&C	

a. Beam ID:	F1P2	n. Beam Peak Flux Density at Command Threshold (dBW/m ²):	
b. Beam Frequency (Lower Band Edge) (MHz):	28000	o. Peak Isotropic Antenna Gain (dBi):	32.1
c. Beam Frequency (Upper Band Edge) (MHz):	29100	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	5.8	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	0.9		
l. Maximum Saturation Flux Density (dBW/m ²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m ²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TC1	1	28351	28350.5	28351.5	TT&C	
TC3	1	29098	29097.5	29098.5	TT&C	
TC12	1	28630	28629.5	28630.5	TT&C	

TC4	1	29099	29098.5	29099.5	TT&C	
U1	1100	28550	28000	29100	Service Link	
TC11	1	28620	28619.5	28620.5	TT&C	
TC2	1	28352	28351.5	28352.5	TT&C	

a. Beam ID:	F2P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	29500	o. Peak Isotropic Antenna Gain (dBi):	32.7
c. Beam Frequency (Upper Band Edge) (MHz):	30000	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	6.4	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	0.9		
l. Maximum Saturation Flux Density (dBW/m²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
U2	500	29750	29500	30000	Service Link	
TC7	1	29998	29997.5	29998.5	TT&C	
TC5	1	29501	29500.5	29501.5	TT&C	
TC6	1	29502	29501.5	29502.5	TT&C	
TC8	1	29999	29998.5	29999.5	TT&C	

a. Beam ID:	G1P1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	27500	o. Peak Isotropic Antenna Gain (dBi):	36.6
c. Beam Frequency (Upper Band Edge) (MHz):	29100	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	6.2	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	6.0		
l. Maximum Saturation Flux Density (dBW/m²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication

TC4	1	29099	29098.5	29099.5	TT&C	
TC2	1	28352	28351.5	28352.5	TT&C	
TC11	1	28620	28619.5	28620.5	TT&C	
TC1	1	28351	28350.5	28351.5	TT&C	
TC9	1	27501	27500.5	27501.5	TT&C	
TC12	1	28630	28629.5	28630.5	TT&C	
TC3	1	29098	29097.5	29098.5	TT&C	
U1	1600	28300	27500	29100	Service Link	
TC10	1	27502	27501.5	27502.5	TT&C	

a. Beam ID:	G1P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	27500	o. Peak Isotropic Antenna Gain (dBi):	36.6
c. Beam Frequency (Upper Band Edge) (MHz):	29100	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	1
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	6.2	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	6.0		
l. Maximum Saturation Flux Density (dBW/m²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TC2	1	28352	28351.5	28352.5	TT&C	
TC11	1	28620	28619.5	28620.5	TT&C	
TC1	1	28351	28350.5	28351.5	TT&C	
TC3	1	29098	29097.5	29098.5	TT&C	
TC9	1	27501	27500.5	27501.5	TT&C	
TC10	1	27502	27501.5	27502.5	TT&C	
TC4	1	29099	29098.5	29099.5	TT&C	
TC12	1	28630	28629.5	28630.5	TT&C	
U1	1600	28300	27500	29100	Service Link	

a. Beam ID:	G2P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	29500	o. Peak Isotropic Antenna Gain (dBi):	36.9
c. Beam Frequency (Upper Band Edge) (MHz):	30000	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	6.5	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	6.0		
l. Maximum Saturation Flux Density (dBW/m²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
U2	500	29750	29500	30000	Service Link	
TC6	1	29502	29501.5	29502.5	TT&C	
TC5	1	29501	29500.5	29501.5	TT&C	
TC7	1	29998	29997.5	29998.5	TT&C	
TC8	1	29999	29998.5	29999.5	TT&C	

a. Beam ID:	F1P1	n. Beam Peak Flux Density at Command Threshold (dBW/m ²):	
b. Beam Frequency (Lower Band Edge) (MHz):	28000	o. Peak Isotropic Antenna Gain (dBi):	32.1
c. Beam Frequency (Upper Band Edge) (MHz):	29100	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	Yes
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	5.8	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	0.9		
l. Maximum Saturation Flux Density (dBW/m ²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m ²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TC3	1	29098	29097.5	29098.5	TT&C	
TC12	1	28630	28629.5	28630.5	TT&C	
TC4	1	29099	29098.5	29099.5	TT&C	
TC11	1	28620	28619.5	28620.5	TT&C	
TC2	1	28352	28351.5	28352.5	TT&C	
TC1	1	28351	28350.5	28351.5	TT&C	
U1	1100	28550	28000	29100	Service Link	

a. Beam ID:	G2P1	n. Beam Peak Flux Density at Command Threshold (dBW/m ²):	
b. Beam Frequency (Lower Band Edge) (MHz):	29500	o. Peak Isotropic Antenna Gain (dBi):	36.9
c. Beam Frequency (Upper Band Edge) (MHz):	30000	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	

h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum G/T (dB/K):	6.5	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):	6.0		
l. Maximum Saturation Flux Density (dBW/m²):	-998.0		
m. Minimum Saturation Flux Density (dBW/m²):	-999.0		

x. Receive Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TC8	1	29999	29998.5	29999.5	TT&C	
TC6	1	29502	29501.5	29502.5	TT&C	
U2	500	29750	29500	30000	Service Link	
TC5	1	29501	29500.5	29501.5	TT&C	
TC7	1	29998	29997.5	29998.5	TT&C	

S5. Space-to-Earth (Transmit) Beams

a. Beam ID:	N1P1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	17800	o. Peak Isotropic Antenna Gain (dBi):	34
c. Beam Frequency (Upper Band Edge) (MHz):	18600	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	39		

x. Transmit Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
D1	800	18200	17800	18600	Service Link	
TM2	0.5	17802	17801.75	17802.25	TT&C	
TM4	0.5	18599	18598.75	18599.25	TT&C	
TM3	0.5	18598	18597.75	18598.25	TT&C	
TM1	0.5	17801	17800.75	17801.25	TT&C	

y. Max. Power-Flux Densities													
			Angles of Arrival PFD							Geographic Region PFD			
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)

		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					
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a. Beam ID:	N1P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	17800	o. Peak Isotropic Antenna Gain (dBi):	34
c. Beam Frequency (Upper Band Edge) (MHz):	18600	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	39		

x. Transmit Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TM2	0.5	17802	17801.75	17802.25	TT&C	
D1	800	18200	17800	18600	Service Link	
TM4	0.5	18599	18598.75	18599.25	TT&C	
TM1	0.5	17801	17800.75	17801.25	TT&C	
TM3	0.5	18598	18597.75	18598.25	TT&C	

y. Max. Power-Flux Densities													
			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	N3P1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	19700	o. Peak Isotropic Antenna Gain (dBi):	34.6
c. Beam Frequency (Upper Band Edge) (MHz):	20200	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37		

x. Transmit Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
D3	500	19950	19700	20200	Service Link	

TM11	0.5	20198	20197.75	20198.25	TT&C	
TM9	0.5	19701	19700.75	19701.25	TT&C	
TM12	0.5	20199	20198.75	20199.25	TT&C	
TM10	0.5	19702	19701.75	19702.25	TT&C	

y. Max. Power-Flux Densities													
			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	M2P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	18800	o. Peak Isotropic Antenna Gain (dBi):	32.1
c. Beam Frequency (Upper Band Edge) (MHz):	19300	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37		

(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TM8	0.5	19299	19298.75	19299.25	TT&C	
TM6	0.5	18802	18801.75	18802.25	TT&C	
TM5	0.5	18801	18800.75	18801.25	TT&C	
TM13	1	18820	18819.5	18820.5	TT&C	
TM14	1	18830	18829.5	18830.5	TT&C	
TM7	0.5	19298	19297.75	19298.25	TT&C	
D2	500	19050	18800	19300	Service Link	

y. Max. Power-Flux Densities													
			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	N3P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	19700	o. Peak Isotropic Antenna Gain (dBi):	34.6
c. Beam Frequency (Upper Band Edge) (MHz):	20200	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	

			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	M3P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	19700	o. Peak Isotropic Antenna Gain (dBi):	32.4
c. Beam Frequency (Upper Band Edge) (MHz):	20200	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37		

x. Transmit Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TM9	0.5	19701	19700.75	19701.25	TT&C	
TM12	0.5	20199	20198.75	20199.25	TT&C	
TM10	0.5	19702	19701.75	19702.25	TT&C	
TM11	0.5	20198	20197.75	20198.25	TT&C	
D3	500	19950	19700	20200	Service Link	

y. Max. Power-Flux Densities													
			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.5	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	N2P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	18800	o. Peak Isotropic Antenna Gain (dBi):	34.4
c. Beam Frequency (Upper Band Edge) (MHz):	19700	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37		

x. Transmit Channels													
(i) Channel ID		(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)		(iv) Channel Frequency (Lower Band Edge) (MHz)		(v) Channel Frequency (Upper Band Edge) (MHz)		(vi) Channel Type		(vii) Point of Communication		
TM8		0.5	19299		19298.75		19299.25		TT&C				
D2		500	19050		18800		19300		Service Link				
TM13		1	18820		18819.5		18820.5		TT&C				
TM7		0.5	19298		19297.75		19298.25		TT&C				
TM5		0.5	18801		18800.75		18801.25		TT&C				
TM14		1	18830		18829.5		18830.5		TT&C				
TM6		0.5	18802		18801.75		18802.25		TT&C				
y. Max. Power-Flux Densities													
			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	N2P1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	18800	o. Peak Isotropic Antenna Gain (dBi):	34.4
c. Beam Frequency (Upper Band Edge) (MHz):	19700	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	Yes
g. Is the beam shapeable? (Check box if Yes):	No	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37		

x. Transmit Channels														
(i) Channel ID		(ii) Channel Bandwidth (MHz)		(iii) Center Frequency (MHz)		(iv) Channel Frequency (Lower Band Edge) (MHz)		(v) Channel Frequency (Upper Band Edge) (MHz)		(vi) Channel Type		(vii) Point of Communication		
TM6		0.5		18802		18801.75		18802.25		TT&C				
TM14		1		18830		18829.5		18830.5		TT&C				
TM8		0.5		19299		19298.75		19299.25		TT&C				
TM5		0.5		18801		18800.75		18801.25		TT&C				
TM13		1		18820		18819.5		18820.5		TT&C				
TM7		0.5		19298		19297.75		19298.25		TT&C				
D2		900		19250		18800		19700		Service Link				
y. Max. Power-Flux Densities														
				Angles of Arrival PFD					Geographic Region PFD					
(i) Beam Sub-Frequency (Lower Band	(ii) Beam Sub-Frequency (Upper Band	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region	(xi) Northeastern Region	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth	

Edge) (MHz)	Edge) (MHz)								(dBW/m²/BW)	(dBW/m²/BW)			(kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	M1P1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	18300	o. Peak Isotropic Antenna Gain (dBi):	31.2
c. Beam Frequency (Upper Band Edge) (MHz):	18600	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	39		

x. Transmit Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TM3	0.5	18598	18597.75	18598.25	TT&C	
D1	300	18450	18300	18600	Service Link	
TM4	0.5	18599	18598.75	18599.25	TT&C	

y. Max. Power-Flux Densities													
			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-131.2	-131.2	-128.7	-127.6	-126.6	-121.1					

a. Beam ID:	M2P1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	18800	o. Peak Isotropic Antenna Gain (dBi):	32.1
c. Beam Frequency (Upper Band Edge) (MHz):	19300	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37		

x. Transmit Channels						
(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication

TM7	0.5	19298	19297.75	19298.25	TT&C	
D2	500	19050	18800	19300	Service Link	
TM13	1	18820	18819.5	18820.5	TT&C	
TM6	0.5	18802	18801.75	18802.25	TT&C	
TM14	1	18830	18829.5	18830.5	TT&C	
TM5	0.5	18801	18800.75	18801.25	TT&C	
TM8	0.5	19299	19298.75	19299.25	TT&C	

y. Max. Power-Flux Densities

			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

a. Beam ID:	M1P2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	18300	o. Peak Isotropic Antenna Gain (dBi):	31.2
c. Beam Frequency (Upper Band Edge) (MHz):	18600	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	LHCP	q. Antenna Pointing Error (°):	0.1
e. Can the space station vary the channel bandwidth with on-board processing?:	Yes	r. Antenna Rotational Error (°):	0
f. Is this a command beam? (Check box if Yes):	No	s. Will a GIMS container file containing all antenna contour data be provided?:	
g. Is the beam shapeable? (Check box if Yes):	Yes	t. Under what rules will the associated antenna contours be submitted?:	
h. Is the beam steerable? (Check box if Yes):	Yes	u. Provide a list of each orbital plane in which this antenna beam is used.:	
i. Is the beam fed into transponders? (Check box if Yes):	No	v. Are all space stations in the NGSO constellation identical?:	Yes
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-50	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	39		

x. Transmit Channels

(i) Channel ID	(ii) Channel Bandwidth (MHz)	(iii) Center Frequency (MHz)	(iv) Channel Frequency (Lower Band Edge) (MHz)	(v) Channel Frequency (Upper Band Edge) (MHz)	(vi) Channel Type	(vii) Point of Communication
TM3	0.5	18598	18597.75	18598.25	TT&C	
TM4	0.5	18599	18598.75	18599.25	TT&C	
D1	300	18450	18300	18600	Service Link	

y. Max. Power-Flux Densities

			Angles of Arrival PFD						Geographic Region PFD				
(i) Beam Sub-Frequency (Lower Band Edge) (MHz)	(ii) Beam Sub-Frequency (Upper Band Edge) (MHz)	(iii) Reference Bandwidth (BW)	(iv) 0-2° (dBW/m²/BW)	(v) 2-5° (dBW/m²/BW)	(vi) 5-15° (dBW/m²/BW)	(vii) 15-20° (dBW/m²/BW)	(viii) 20-25° (dBW/m²/BW)	(ix) 25-90° (dBW/m²/BW)	(x) Southeastern Region (dBW/m²/BW)	(xi) Northeastern Region (dBW/m²/BW)	(xii) Western Region (dBW/m²/BW)	(xiii) Other Region (dBW/m²/BW)	(xiv) Energy Dispersal Bandwidth (kHz)
		1 MHz	-133.7	-132.6	-130.4	-129.4	-128.5	-123.4					

S6. Space-to-Space (Receive) Beams**S7. Space-to-Space (Transmit) Beams****S8. Attachments**

Beam ID	Direction of Transmission	(i) Document Type	(ii) If Document Type is "Other", provide short description	(iii) File Name
		Other	NGSO Antenna Gain Data	GIMSLEO.mdb