

File Number: **DRAFT-SAT-LOA-20260513-00197**

Call Sign:

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
Altus	Non-Geostationary (NGSO) Small Satellites or Small Spacecraft	6	No	Applicant seeks permission to launch and operate a five satellite constellation of lunar orbiting spacecraft to provide long-haul lunar relay services, proximity relay communications on the lunar surface, and complementary PNT services.

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
SRS		Other	22550	23150	Earth-to-Space (Receive)	No
SRS		7145 - 7235	7145	7235	Earth-to-Space (Receive)	No
SRS		2200 - 2290	2200	2290	Space-to-Space (Receive)	No
RDSS		2483.5 - 2500	2483.5	2500	Space-to-Space (Receive)	No
SRS		25500 - 27000	25500	27000	Space-to-Earth (Transmit)	No
SRS		8450 - 8500	8450	8500	Space-to-Earth (Transmit)	No
SRS		2025 - 2110	2025	2110	Space-to-Space (Transmit)	No
RDSS		2483.5 - 2500	2483.5	2500	Space-to-Space (Transmit)	No
RNSS		1164 - 1215	1164	1215	Space-to-Space (Receive)	No
RNSS		1559 - 1610	1559	1610	Space-to-Space (Receive)	No
ISS		25500 - 27500	25500	27500	Space-to-Space (Receive)	No
ISS		22550 - 23550	22550	23550	Space-to-Space (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
5	5	2026-11-25	Moon		3

g. Orbital Plane Information

(i) Orbital Plane No.	(ii) Number	(iii) Inclination	(iv) Inclination	(v) Orbital	(vi) Apogee	(vii) Apogee	(viii) Perigee	(ix) Perigee	(x) Argument	(xi) Right Ascension	(xii) Right Ascension	(xiii) Active	(xiv) Active	(xv) Is additional	(xvi) Satellite	(xvii) Phase	(xviii) First	(xix) Maximum
-----------------------	-------------	-------------------	------------------	-------------	-------------	--------------	----------------	--------------	--------------	----------------------	-----------------------	---------------	--------------	--------------------	-----------------	--------------	---------------	---------------

	of Satellites in Plane	n Angle (°)	n Angle Tolerance (+/- °)	Period (seconds)	(km)	Tolerance (+/- km)	(km)	Tolerance (+/- km)	of Perigee (°)	of Ascending Node (°)	of Ascending Node Tolerance (+/- °)	Service Arc Begin Angle with Respect to Ascending Node (°)	Service Arc End Angle with Respect to Ascending Node (°)	info on the active service arc provided in the application?	Spacing	Angle Spacing (°)	Satellite Initial Phase Angle (°)	Orbital Eccentricity
1	1	56.25	2.5	118,080	20,370	0	3,640	0	90	0	360	265	95	Yes	Irregularly-Spaced			0.72
2	2	56.25	2.5	118,080	20,370	0	3,640	0	90	0	360	265	95	Yes	Evenly-Spaced	180	60	0.72
3	2	56.25	2.5	118,080	20,370	0	3,640	0	90	0	360	265	95	Yes	Evenly-Spaced	180	120	0.72

h. Initial Phase Angle Information

(i) Orbital Plane No.	(i) Satellite No.	(ii) Initial Phase Angle (°)
1	1	
2	1	60
2	2	240
3	1	120
3	2	300

S4. Earth-to-Space (Receive) Beams

a. Beam ID:	RKEH	n. Beam Peak Flux Density at Command Threshold (dBW/m²):				
b. Beam Frequency (Lower Band Edge) (MHz):	22550	o. Peak Isotropic Antenna Gain (dBi):	40.8			
c. Beam Frequency (Upper Band Edge) (MHz):	23150	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):				
d. Polarization:	RHCP	q. Antenna Pointing Error (°):				
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):				
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?:				
j. Maximum G/T (dB/K):	13	w. What information will be provided with the predicted antenna gain contours?:				
k. Minimum G/T (dB/K):						
l. Maximum Saturation Flux Density (dBW/m²):						
m. Minimum Saturation Flux Density (dBW/m²):						
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
R001	0.004	22585	22584.998	22585.002	TT&C	
R002	5	22585	22582.5	22587.5	Service Link	

R003	10	22585	22580	22590	Service Link	
R004	20	22585	22575	22595	Service Link	
R005	40	22585	22565	22605	Service Link	
R008	5	22620	22617.5	22622.5	Service Link	
R009	10	22620	22615	22625	Service Link	
R010	20	22620	22610	22630	Service Link	
R015	10	22655	22650	22660	Service Link	
R006	60	22585	22555	22615	Service Link	
R007	0.004	22620	22619.998	22620.002	TT&C	
R011	40	22620	22600	22640	Service Link	
R013	0.004	22655	22654.998	22655.002	TT&C	
R012	60	22620	22590	22650	Service Link	
R024	60	22690	22660	22720	Service Link	
R030	60	22725	22695	22755	Service Link	
R041	40	22795	22775	22815	Service Link	
R046	20	22830	22820	22840	Service Link	
R014	5	22655	22652.5	22657.5	Service Link	
R017	40	22655	22635	22675	Service Link	
R018	60	22655	22625	22685	Service Link	
R016	20	22655	22645	22665	Service Link	
R019	0.004	22690	22689.998	22690.002	TT&C	
R021	10	22690	22685	22695	Service Link	
R025	0.004	22725	22724.998	22725.002	TT&C	
R026	5	22725	22722.5	22727.5	Service Link	
R027	10	22725	22720	22730	Service Link	
R028	20	22725	22715	22735	Service Link	
R033	10	22760	22755	22765	Service Link	
R043	0.004	22830	22829.998	22830.002	TT&C	
R044	5	22830	22827.5	22832.5	Service Link	
R020	5	22690	22687.5	22692.5	Service Link	
R022	20	22690	22680	22700	Service Link	
R023	40	22690	22670	22710	Service Link	
R034	20	22760	22750	22770	Service Link	
R035	40	22760	22740	22780	Service Link	
R036	60	22760	22730	22790	Service Link	
R047	40	22830	22810	22850	Service Link	
R048	60	22830	22800	22860	Service Link	
R029	40	22725	22705	22745	Service Link	
R031	0.004	22760	22759.998	22760.002	TT&C	
R039	10	22795	22790	22800	Service Link	
R040	20	22795	22785	22805	Service Link	

R042	60	22795	22765	22825	Service Link	
R045	10	22830	22825	22835	Service Link	
R032	5	22760	22757.5	22762.5	Service Link	
R037	0.004	22795	22794.998	22795.002	TT&C	
R038	5	22795	22792.5	22797.5	Service Link	
R049	0.004	22865	22864.998	22865.002	TT&C	
R050	5	22865	22862.5	22867.5	Service Link	
R052	20	22865	22855	22875	Service Link	
R053	40	22865	22845	22885	Service Link	
R054	60	22865	22835	22895	Service Link	
R056	5	22900	22897.5	22902.5	Service Link	
R061	0.004	22935	22934.998	22935.002	TT&C	
R066	60	22935	22905	22965	Service Link	
R069	10	22970	22965	22975	Service Link	
R071	40	22970	22950	22990	Service Link	
R075	10	23005	23000	23010	Service Link	
R077	40	23005	22985	23025	Service Link	
R078	60	23005	22975	23035	Service Link	
R079	0.004	23040	23039.998	23040.002	TT&C	
R080	5	23040	23037.5	23042.5	Service Link	
R088	20	23075	23065	23085	Service Link	
R092	5	23110	23107.5	23112.5	Service Link	
R095	40	23110	23090	23130	Service Link	
R051	10	22865	22860	22870	Service Link	
R058	20	22900	22890	22910	Service Link	
R064	20	22935	22925	22945	Service Link	
R065	40	22935	22915	22955	Service Link	
R067	0.004	22970	22969.998	22970.002	TT&C	
R068	5	22970	22967.5	22972.5	Service Link	
R070	20	22970	22960	22980	Service Link	
R072	60	22970	22940	23000	Service Link	
R074	5	23005	23002.5	23007.5	Service Link	
R081	10	23040	23035	23045	Service Link	
R083	40	23040	23020	23060	Service Link	
R084	60	23040	23010	23070	Service Link	
R086	5	23075	23072.5	23077.5	Service Link	
R090	60	23075	23045	23105	Service Link	
R091	0.004	23110	23109.998	23110.002	TT&C	
R094	20	23110	23100	23120	Service Link	
R096	60	23110	23080	23140	Service Link	
R055	0.004	22900	22899.998	22900.002	TT&C	

R057	10	22900	22895	22905	Service Link	
R059	40	22900	22880	22920	Service Link	
R073	0.004	23005	23004.998	23005.002	TT&C	
R082	20	23040	23030	23050	Service Link	
R089	40	23075	23055	23095	Service Link	
R060	60	22900	22870	22930	Service Link	
R062	5	22935	22932.5	22937.5	Service Link	
R085	0.004	23075	23074.998	23075.002	TT&C	
R063	10	22935	22930	22940	Service Link	
R076	20	23005	22995	23015	Service Link	
R087	10	23075	23070	23080	Service Link	
R093	10	23110	23105	23115	Service Link	

a. Beam ID:	RXEH	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	-148.4
b. Beam Frequency (Lower Band Edge) (MHz):	7190	o. Peak Isotropic Antenna Gain (dBi):	32
c. Beam Frequency (Upper Band Edge) (MHz):	7235	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
f. Is this a command beam? (Check box if Yes):	Yes	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?:	
j. Maximum G/T (dB/K):	-0.8	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):			
l. Maximum Saturation Flux Density (dBW/m²):			
m. Minimum Saturation Flux Density (dBW/m²):			

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
R108		7220.19			TT&C	
R098		7199.76			TT&C	
R102		7206.57			TT&C	
R105		7213.38			TT&C	
R107		7220.19			TT&C	
R099		7199.76			TT&C	
R101		7206.57			TT&C	
R104		7213.38			TT&C	
R110		7227			TT&C	
R111		7227			TT&C	
R097		7199.76			TT&C	
R100		7206.57			TT&C	
R103		7213.38			TT&C	

R106		7220.19			TT&C	
R109		7227			TT&C	

a. Beam ID:	RXEP	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	-124.4
b. Beam Frequency (Lower Band Edge) (MHz):	7190	o. Peak Isotropic Antenna Gain (dBi):	8
c. Beam Frequency (Upper Band Edge) (MHz):	7235	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
f. Is this a command beam? (Check box if Yes):	Yes	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):	No	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?:	
j. Maximum G/T (dB/K):	-17.8	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):			
l. Maximum Saturation Flux Density (dBW/m²):			
m. Minimum Saturation Flux Density (dBW/m²):			

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
R113		7199.76			TT&C	
R122		7220.19			TT&C	
R125		7227			TT&C	
R120		7213.38			TT&C	
R114		7199.76			TT&C	
R116		7206.57			TT&C	
R126		7227			TT&C	
R117		7206.57			TT&C	
R119		7213.38			TT&C	
R123		7220.19			TT&C	
R115		7206.57			TT&C	
R121		7220.19			TT&C	
R124		7227			TT&C	
R112		7199.76			TT&C	
R118		7213.38			TT&C	

S5. Space-to-Earth (Transmit) Beams

a. Beam ID:	TKEH	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	25500	o. Peak Isotropic Antenna Gain (dBi):	42.7
c. Beam Frequency (Upper Band Edge) (MHz):	27000	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	

e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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?:	
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-15	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	51		

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
T001	4	25587.57	25585.57	25589.57	Service Link	
T003	16	25587.57	25579.57	25595.57	Service Link	
T004	134	25587.57	25520.57	25654.57	Service Link	
T009	134	25664.82	25597.82	25731.82	Service Link	
T012	8	25742.18	25738.18	25746.18	Service Link	
T013	16	25742.18	25734.18	25750.18	Service Link	
T019	134	25819.65	25752.65	25886.65	Service Link	
T020	156	25819.65	25741.65	25897.65	Service Link	
T023	16	25897.25	25889.25	25905.25	Service Link	
T002	8	25587.57	25583.57	25591.57	Service Link	
T018	16	25819.65	25811.65	25827.65	Service Link	
T005	156	25587.57	25509.57	25665.57	Service Link	
T010	156	25664.82	25586.82	25742.82	Service Link	
T015	156	25742.18	25664.18	25820.18	Service Link	
T006	4	25664.82	25662.82	25666.82	Service Link	
T007	8	25664.82	25660.82	25668.82	Service Link	
T008	16	25664.82	25656.82	25672.82	Service Link	
T011	4	25742.18	25740.18	25744.18	Service Link	
T016	4	25819.65	25817.65	25821.65	Service Link	
T017	8	25819.65	25815.65	25823.65	Service Link	
T025	156	25897.25	25819.25	25975.25	Service Link	
T014	134	25742.18	25675.18	25809.18	Service Link	
T021	4	25897.25	25895.25	25899.25	Service Link	
T022	8	25897.25	25893.25	25901.25	Service Link	
T024	134	25897.25	25830.25	25964.25	Service Link	
T026	4	25974.96	25972.96	25976.96	Service Link	
T031	4	26052.78	26050.78	26054.78	Service Link	
T027	8	25974.96	25970.96	25978.96	Service Link	
T034	134	26052.78	25985.78	26119.78	Service Link	
T028	16	25974.96	25966.96	25982.96	Service Link	
T033	16	26052.78	26044.78	26060.78	Service Link	
T029	134	25974.96	25907.96	26041.96	Service Link	

T030	156	25974.96	25896.96	26052.96	Service Link	
T032	8	26052.78	26048.78	26056.78	Service Link	
T035	156	26052.78	25974.78	26130.78	Service Link	
T036	4	26130.72	26128.72	26132.72	Service Link	
T037	8	26130.72	26126.72	26134.72	Service Link	
T038	16	26130.72	26122.72	26138.72	Service Link	
T039	134	26130.72	26063.72	26197.72	Service Link	
T040	156	26130.72	26052.72	26208.72	Service Link	
T041	4	26208.78	26206.78	26210.78	Service Link	
T044	134	26208.78	26141.78	26275.78	Service Link	
T046	4	26286.96	26284.96	26288.96	Service Link	
T042	8	26208.78	26204.78	26212.78	Service Link	
T047	8	26286.96	26282.96	26290.96	Service Link	
T048	16	26286.96	26278.96	26294.96	Service Link	
T052	8	26384.3	26380.3	26388.3	Service Link	
T057	8	26481.83	26477.83	26485.83	Service Link	
T064	134	26560.41	26493.41	26627.41	Service Link	
T069	134	26648.67	26581.67	26715.67	Service Link	
T077	8	26816.05	26812.05	26820.05	Service Link	
T079	134	26816.05	26749.05	26883.05	Service Link	
T043	16	26208.78	26200.78	26216.78	Service Link	
T050	156	26286.96	26208.96	26364.96	Service Link	
T051	4	26384.3	26382.3	26386.3	Service Link	
T066	4	26648.67	26646.67	26650.67	Service Link	
T078	16	26816.05	26808.05	26824.05	Service Link	
T045	156	26208.78	26130.78	26286.78	Service Link	
T055	156	26384.3	26306.3	26462.3	Service Link	
T049	134	26286.96	26219.96	26353.96	Service Link	
T053	16	26384.3	26376.3	26392.3	Service Link	
T054	134	26384.3	26317.3	26451.3	Service Link	
T056	4	26481.83	26479.83	26483.83	Service Link	
T058	16	26481.83	26473.83	26489.83	Service Link	
T061	4	26560.41	26558.41	26562.41	Service Link	
T062	8	26560.41	26556.41	26564.41	Service Link	
T063	16	26560.41	26552.41	26568.41	Service Link	
T067	8	26648.67	26644.67	26652.67	Service Link	
T071	4	26727.5	26725.5	26729.5	Service Link	
T073	16	26727.5	26719.5	26735.5	Service Link	
T074	134	26727.5	26660.5	26794.5	Service Link	
T075	156	26727.5	26649.5	26805.5	Service Link	
T076	4	26816.05	26814.05	26818.05	Service Link	

T080	156	26816.05	26738.05	26894.05	Service Link	
T059	134	26481.83	26414.83	26548.83	Service Link	
T060	156	26481.83	26403.83	26559.83	Service Link	
T065	156	26560.41	26482.41	26638.41	Service Link	
T068	16	26648.67	26640.67	26656.67	Service Link	
T070	156	26648.67	26570.67	26726.67	Service Link	
T072	8	26727.5	26723.5	26731.5	Service Link	

a. Beam ID:	TXEH	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	8450	o. Peak Isotropic Antenna Gain (dBi):	32.3
c. Beam Frequency (Upper Band Edge) (MHz):	8500	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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?:	
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-31.2	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	37.8		

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
T081	8	8459	8455	8463	TT&C	
T084	16	8467	8459	8475	TT&C	
T088	16	8483	8475	8491	TT&C	
T082	16	8459	8451	8467	TT&C	
T083	8	8467	8463	8471	TT&C	
T087	8	8483	8479	8487	TT&C	
T085	8	8475	8471	8479	TT&C	
T086	16	8475	8467	8483	TT&C	
T089	8	8491	8487	8495	TT&C	
T090	16	8491	8483	8499	TT&C	

a. Beam ID:	TXEP	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	8450	o. Peak Isotropic Antenna Gain (dBi):	6.3
c. Beam Frequency (Upper Band Edge) (MHz):	8500	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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):	No	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?:	
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-53.8	w. What information will be provided with the predicted antenna gain contours?:	

k. Maximum Transmit EIRP (dBW):		15.3				
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
T091	8	8459	8455	8463	TT&C	
T095	8	8475	8471	8479	TT&C	
T098	16	8483	8475	8491	TT&C	
T092	16	8459	8451	8467	TT&C	
T093	8	8467	8463	8471	TT&C	
T100	16	8491	8483	8499	TT&C	
T094	16	8467	8459	8475	TT&C	
T096	16	8475	8467	8483	TT&C	
T097	8	8483	8479	8487	TT&C	
T099	8	8491	8487	8495	TT&C	

S6. Space-to-Space (Receive) Beams

a. Beam ID:	RKLH	n. Beam Peak Flux Density at Command Threshold (dBW/m²):				
b. Beam Frequency (Lower Band Edge) (MHz):	25500	o. Peak Isotropic Antenna Gain (dBi):	48.6			
c. Beam Frequency (Upper Band Edge) (MHz):	27500	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):				
d. Polarization:	RHCP	q. Antenna Pointing Error (°):				
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):				
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?:				
j. Maximum G/T (dB/K):	16.9	w. What information will be provided with the predicted antenna gain contours?:				
k. Minimum G/T (dB/K):						
l. Maximum Saturation Flux Density (dBW/m²):						
m. Minimum Saturation Flux Density (dBW/m²):						
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
R127	2	26250	26249	26251	Service Link	
R132	100	26250	26200	26300	Service Link	
R136	10	27250	27245	27255	Service Link	
R139	100	27250	27200	27300	Service Link	
R128	5	26250	26247.5	26252.5	Service Link	
R129	10	26250	26245	26255	Service Link	
R130	25	26250	26237.5	26262.5	Service Link	
R133	200	26250	26150	26350	Service Link	

R131	50	26250	26225	26275	Service Link	
R135	5	27250	27247.5	27252.5	Service Link	
R138	50	27250	27225	27275	Service Link	
R140	200	27250	27150	27350	Service Link	
R134	2	27250	27249	27251	Service Link	
R137	25	27250	27237.5	27262.5	Service Link	

a. Beam ID:	RSLH	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	2200	o. Peak Isotropic Antenna Gain (dBi):	25.9
c. Beam Frequency (Upper Band Edge) (MHz):	2290	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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?:	
j. Maximum G/T (dB/K):	-4.1	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):			
l. Maximum Saturation Flux Density (dBW/m²):			
m. Minimum Saturation Flux Density (dBW/m²):			

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
R144	20	2245	2235	2255	Service Link	
R141	2	2245	2244	2246	Service Link	
R142	5	2245	2242.5	2247.5	Service Link	
R143	10	2245	2240	2250	Service Link	

a. Beam ID:	RSLA	n. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	2483.5	o. Peak Isotropic Antenna Gain (dBi):	16.8
c. Beam Frequency (Upper Band Edge) (MHz):	2500	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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):	No	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?:	
j. Maximum G/T (dB/K):	-11.9	w. What information will be provided with the predicted antenna gain contours?:	
k. Minimum G/T (dB/K):			
l. Maximum Saturation Flux Density (dBW/m²):			
m. Minimum Saturation Flux Density (dBW/m²):			

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

			Band Edge) (MHz)	Band Edge) (MHz)		
R147	10	2491.75	2486.75	2496.75	Service Link	
R145	2	2491.75	2490.75	2492.75	Service Link	
R146	5	2491.75	2489.25	2494.25	Service Link	

a. Beam ID:	GNSS1	n. Beam Peak Flux Density at Command Threshold (dBW/m²):				
b. Beam Frequency (Lower Band Edge) (MHz):	1164	o. Peak Isotropic Antenna Gain (dBi):	18			
c. Beam Frequency (Upper Band Edge) (MHz):	1215	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):				
d. Polarization:	RHCP	q. Antenna Pointing Error (°):				
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):				
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?:				
j. Maximum G/T (dB/K):	-7.2	w. What information will be provided with the predicted antenna gain contours?:				
k. Minimum G/T (dB/K):						
l. Maximum Saturation Flux Density (dBW/m²):						
m. Minimum Saturation Flux Density (dBW/m²):						
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
R148	12.5	1176.45	1170.2	1182.7	Service Link	

a. Beam ID:	GNSS2	n. Beam Peak Flux Density at Command Threshold (dBW/m²):				
b. Beam Frequency (Lower Band Edge) (MHz):	1559	o. Peak Isotropic Antenna Gain (dBi):	18			
c. Beam Frequency (Upper Band Edge) (MHz):	1610	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):				
d. Polarization:	RHCP	q. Antenna Pointing Error (°):				
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):				
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?:				
j. Maximum G/T (dB/K):	-7.2	w. What information will be provided with the predicted antenna gain contours?:				
k. Minimum G/T (dB/K):						
l. Maximum Saturation Flux Density (dBW/m²):						
m. Minimum Saturation Flux Density (dBW/m²):						
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
R149	15.345	1575.42	1567.7475	1583.0925	Service Link	

S7. Space-to-Space (Transmit) Beams

a. Beam ID:	TKLH	m. Beam Peak Flux Density at Command Threshold (dBW/m ²):	
b. Beam Frequency (Lower Band Edge) (MHz):	22550	o. Peak Isotropic Antenna Gain (dBi):	47.3
c. Beam Frequency (Upper Band Edge) (MHz):	23550	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	44.3
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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?:	
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-11.3	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	51.7		

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
T101	2	22850	22849	22851	Service Link	
T102	5	22850	22847.5	22852.5	Service Link	
T104	25	22850	22837.5	22862.5	Service Link	
T108	2	23350	23349	23351	Service Link	
T111	25	23350	23337.5	23362.5	Service Link	
T103	10	22850	22845	22855	Service Link	
T106	100	22850	22800	22900	Service Link	
T107	200	22850	22750	22950	Service Link	
T114	200	23350	23250	23450	Service Link	
T105	50	22850	22825	22875	Service Link	
T112	50	23350	23325	23375	Service Link	
T113	100	23350	23300	23400	Service Link	
T109	5	23350	23347.5	23352.5	Service Link	
T110	10	23350	23345	23355	Service Link	

a. Beam ID:	TSLH	m. Beam Peak Flux Density at Command Threshold (dBW/m ²):	
b. Beam Frequency (Lower Band Edge) (MHz):	2025	o. Peak Isotropic Antenna Gain (dBi):	26
c. Beam Frequency (Upper Band Edge) (MHz):	2110	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	23
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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?:	
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-32.8	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	30.2		

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

T116	5	2067.5	2065	2070	Service Link	
T115	2	2067.5	2066.5	2068.5	Service Link	
T118	20	2067.5	2057.5	2077.5	Service Link	
T117	10	2067.5	2062.5	2072.5	Service Link	

a. Beam ID:	TSLA	m. Beam Peak Flux Density at Command Threshold (dBW/m²):	
b. Beam Frequency (Lower Band Edge) (MHz):	2483.5	o. Peak Isotropic Antenna Gain (dBi):	16.9
c. Beam Frequency (Upper Band Edge) (MHz):	2500	p. Isotropic Antenna Gain at 3 dB Beamwidth (dBi):	13.9
d. Polarization:	RHCP	q. Antenna Pointing Error (°):	
e. Can the space station vary the channel bandwidth with on-board processing?:	No	r. Antenna Rotational Error (°):	
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):	No	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?:	
j. Maximum Transmit EIRP Density (dBW/Ref BW):	-36.1	w. What information will be provided with the predicted antenna gain contours?:	
k. Maximum Transmit EIRP (dBW):	26.9		

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
T121	10	2491.75	2486.75	2496.75	Service Link	
T120	5	2491.75	2489.25	2494.25	Service Link	
T119	2	2491.75	2490.75	2492.75	Service Link	

S8. Attachments

Beam ID	Direction of Transmission	(i) Document Type	(ii) If Document Type is "Other", provide short description	(iii) File Name
GNSS1	Space-to-Space (Receive)			GNSSRX.gxt
GNSS2	Space-to-Space (Receive)	Receive Antenna Gain Contour Diagram		GNSSRX.gxt
RKEH	Earth-to-Space (Receive)	Receive Antenna Gain Contour Diagram		KAHGARX.gxt
RKLH	Space-to-Space (Receive)	Receive Antenna Gain Contour Diagram		KALFRX.gxt
RSLA	Space-to-Space (Receive)	Receive Antenna Gain Contour Diagram		AFSRX.gxt
RSLH	Space-to-Space (Receive)	Receive Antenna Gain Contour Diagram		SHGARX.gxt
RXEH	Earth-to-Space (Receive)	Receive Antenna Gain Contour Diagram		XHGARX.gxt
RXEP	Earth-to-Space (Receive)	Receive Antenna Gain Contour Diagram		XPATRX.gxt
TKEH	Space-to-Earth (Transmit)	Transmit Antenna Gain Contour Diagram		KAHGATX.gxt
TKLH	Space-to-Space (Transmit)	Transmit Antenna Gain Contour Diagram		KALFTX.gxt
TSLA	Space-to-Space (Transmit)	Transmit Antenna Gain Contour Diagram		AFSTX.gxt
TSLH	Space-to-Space (Transmit)	Transmit Antenna Gain Contour Diagram		SHGATX.gxt
TXEH	Space-to-Earth (Transmit)	Transmit Antenna Gain Contour Diagram		XHGATX.gxt
TXEP	Space-to-Earth (Transmit)	Transmit Antenna Gain Contour Diagram		XPATTX.gxt