

FCC 312 Schedule S	FEDERAL COMMUNICATIONS COMMISSION SATELLITE SPACE STATION AUTHORIZATIONS (Technical and Operational Description)	Page 1: General, Frequency Bands, and GSO Orbit
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S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: ONEWEB		e. Estimated Date of Placement into Service:	i. Will the space station(s) operate on a Common Carrier Basis: N
b. Construction Commencement Date:		f. Estimated Lifetime of Satellite(s): 10 Years	j. Number of transponders offered on a common carrier basis:
c. Construction Completion Date:		g. Total Number of Transponders:	k. Total Common Carrier Transponder Bandwidth: MHz
d1. Est Launch Date Begin:	d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) MHz	l. Orbit Type: Mark all boxes that apply: <input type="checkbox"/> GSO <input checked="" type="checkbox"/> NGSO

S2. OPERATING FREQUENCY BANDS Identify the frequency range and transmit/receive mode for all frequency bands in which this station will operate. Also indicate the nature of service(s) for each frequency band.

Frequency Band Limits				e. T/R Mode	Nature of Service(s): List all that apply to this band	f.
Lower Frequency (Hz)		Upper Frequency (Hz)				
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)			
10.7	G	11.7	G	T	Fixed Satellite Service	
11.7	G	12.2	G	T	Fixed Satellite Service	
12.2	G	12.7	G	T	Fixed Satellite Service	
14.0	G	14.2	G	R	Fixed Satellite Service	
14.2	G	14.47	G	R	Fixed Satellite Service	
14.47	G	14.5	G	R	Fixed Satellite Service	
17.8	G	18.3	G	T	Fixed Satellite Service	
18.3	G	18.6	G	T	Fixed Satellite Service	
18.8	G	19.3	G	T	Fixed Satellite Service	
27.5	G	29.1	G	R	Fixed Satellite Service	
29.5	G	30.0	G	R	Fixed Satellite Service	

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

FEDERAL COMMUNICATIONS COMMISSION
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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System: 720 S4c. Celestial Reference Body (Earth, Sun, Moon, etc.): E
 S4b. Total Number of Orbital Planes in Network or System: 18 S4d. Orbit Epoch Date: 1/1/2010

For each Orbital Plane Provide:

(e) Orbital Plane No.	(f) No. of Satellites in Plane	(g) Inclination Angle (degrees)	(h) Orbital Period (Seconds)	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension of the Ascending Node (Deg.)	(l) Argument of Perigee (Degrees)	Active Service Arc Range (Degrees)		
								(m) Begin Angle	(n) End Angle	(o) Other
1	40	87.9	6600	1200	1200	0	0	0	360	
2	40	87.9	6600	1200	1200	10.2	0	0	360	
3	40	87.9	6600	1200	1200	20.4	0	0	360	
4	40	87.9	6600	1200	1200	30.6	0	0	360	
5	40	87.9	6600	1200	1200	40.8	0	0	360	
6	40	87.9	6600	1200	1200	51	0	0	360	
7	40	87.9	6600	1200	1200	61.2	0	0	360	
8	40	87.9	6600	1200	1200	71.4	0	0	360	
9	40	87.9	6600	1200	1200	81.6	0	0	360	
10	40	87.9	6600	1200	1200	91.8	0	0	360	
11	40	87.9	6600	1200	1200	102	0	0	360	
12	40	87.9	6600	1200	1200	112.2	0	0	360	
13	40	87.9	6600	1200	1200	122.4	0	0	360	
14	40	87.9	6600	1200	1200	132.6	0	0	360	
15	40	87.9	6600	1200	1200	142.8	0	0	360	
16	40	87.9	6600	1200	1200	153	0	0	360	
17	40	87.9	6600	1200	1200	163.2	0	0	360	
18	40	87.9	6600	1200	1200	173.4	0	0	360	

S5. INITIAL SATELLITE PHASE ANGLE For each satellite in each orbital plane, provide the initial phase angle.

(a) Orbital Plane No.	(b) Satellite Number	(c) Initial Phase Angle (Degrees)
1	1	0
1	2	9
1	3	18
1	4	27

1	5	36
1	6	45
1	7	54
1	8	63
1	9	72
1	10	81
1	11	90
1	12	99
1	13	108
1	14	117
1	15	126
1	16	135
1	17	144
1	18	153
1	19	162
1	20	171
1	21	180
1	22	189
1	23	198
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1	31	270
1	32	279
1	33	288
1	34	297
1	35	306
1	36	315
1	37	324
1	38	333
1	39	342
1	40	351
2	1	4.5
2	2	13.5
2	3	22.5

2	4	31.5
2	5	40.5
2	6	49.5
2	7	58.5
2	8	67.5
2	9	76.5
2	10	85.5
2	11	94.5
2	12	103.5
2	13	112.5
2	14	121.5
2	15	130.5
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2	34	301.5
2	35	310.5
2	36	319.5
2	37	328.5
2	38	337.5
2	39	346.5
2	40	355.5
3	1	0
3	2	9

3	3	18
3	4	27
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3	6	45
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**FEDERAL COMMUNICATIONS COMMISSION
 SATELLITE SPACE STATION AUTHORIZATIONS
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S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area ID	(b) Type of Associated Station (Earth or Space)	(c) Service Area Diagram File Name (GXT File)	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of Service Area Diagram.
GLBL	E		Global

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S7. SPACE STATION ANTENNA BEAM CHARACTERISTICS For each antenna beam provide:

(a) Beam ID	(b) T/R Mode	Isotropic Antenna Gain		(e) Pointing Error (Degrees)	(f) Rotational Error (Degrees)	(g) Min. Cross- Polar Iso- lation (dB)	(h) Polar- ization Switch- able? (Y/N)	(i) Polarization Alignment Rel. Equatorial Plane (Degrees)	(j) Service Area ID	Transmit			Receive				
		(c) Peak (dBi)	(d) Edge (dBi)							(k) Input Losses (dB)	(l) Effective Output Power (W)	(m) Max. EIRP (dBW)	(n) System Noise Temp (k)	(o) G/T Max. Gain Pt. (db/K)	(p) Min. Saturation Flux Density (dBW/m2)	Input Attenuator (dB)	
																(q) Max. Value	(r) Step Size
UU	R			0.4	1	20			GLBL				-1	-77.5			
UD	T			0.4	1	20			GLBL		34.6						
GU	R			0.6	1	25			GLBL			11.4	-101.5				
GD	T			0.6	1	25			GLBL		38						

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S8. ANTENNA BEAM DIAGRAMS For each beam pattern provide the reference to the graphic image and numerical data:
Also provide the power flux density levels in each beam that result from the emission with the highest power flux density.

(a) Beam ID	(b) T/R Mode	(c) Co-or Cross Polar Mode ("C" or" X")	(d) GSO Ref. Orbital Longitude (Deg. E/W)	(e) NGSO Antenna Gain Contour Description (Figure/Table/ Exhibit)	(f) GSO Antenna Gain Contour Data (GXT File)	Max. Power Flux Density (dBW/M2/Hz)				
						At Angle of Arrival above horizontal (for emission with highest PFD)				
						(g) 5 Deg	(h) 10 Deg	(i) 15 Deg	(j) 20 Deg	(k) 25 Deg
UU	R	C		Beam UU.pdf						
UD	T	C		Beam UD.pdf		-165.9	-164.4	-162.7	-160.9	-159
GU	R	C		Beam GU.pdf						
GD	T	C		Beam GD.pdf		-144.1	-135.9	-131.8	-130.8	-129.9

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S9. SPACE STATION CHANNELS For each frequency channel provide: S10. SPACE STATION TRANSPONDERS For each transponder provide:

(a) Channel No.	(B) Assigned Bandwidth (kHz)	(c) T/R Mode	(d) Center Frequency (MHz)	(e) Polarization (H, V, L, R)	(f) TTC or Comm Channel (T or C)
GU1	250000	R	27725	R	C
GU2	250000	R	27975	R	C
GU3	250000	R	28225	R	C
GU4	250000	R	28475	R	C
GU5	250000	R	28725	R	C
GU6	250000	R	28975	R	C
GU7	250000	R	29625	R	C
GU8	250000	R	29875	R	C
GU9	250000	R	27725	L	C
GU10	250000	R	27975	L	C
GU11	250000	R	28225	L	C
GU12	250000	R	28475	L	C
GU13	250000	R	28725	L	C
GU14	250000	R	28975	L	C
GU15	250000	R	29625	L	C
GU16	250000	R	29875	L	C
UD1	250000	T	10825	R	C
UD2	250000	T	11075	R	C
UD3	250000	T	11325	R	C
UD4	250000	T	11575	R	C
UD5	250000	T	11825	R	C
UD6	250000	T	12075	R	C
UD7	250000	T	12325	R	C
UD8	250000	T	12575	R	C
UU1	125000	R	14062.5	L	C
UU2	125000	R	14187.5	L	C
UU3	125000	R	14312.5	L	C
UU4	125000	R	14437.5	L	C
GD1	155000	T	17877.5	R	C
GD2	155000	T	18032.5	R	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
FU1		GU1	GU		
FU2		GU2	GU		
FU3		GU3	GU		
FU4		GU4	GU		
FU5		GU5	GU		
FU6		GU6	GU		
FU7		GU7	GU		
FU8		GU8	GU		
FU9		GU9	GU		
FU10		GU10	GU		
FU11		GU11	GU		
FU12		GU12	GU		
FU13		GU13	GU		
FU14		GU14	GU		
FU15		GU15	GU		
FU16		GU16	GU		
RU1		UU1	UU		
RU2		UU2	UU		
RU3		UU3	UU		
RU4		UU4	UU		
RU5		UU1	UU		
RU6		UU2	UU		
RU7		UU3	UU		
RU8		UU4	UU		
RU9		UU1	UU		
RU10		UU2	UU		
RU11		UU3	UU		
RU12		UU4	UU		
RU13		UU1	UU		
RU14		UU2	UU		

GD3	155000	T	18187.5	R	C
GD4	155000	T	18342.5	R	C
GD5	155000	T	18497.5	R	C
GD6	155000	T	18877.5	R	C
GD7	155000	T	19032.5	R	C
GD8	155000	T	19187.5	R	C
GD9	155000	T	17877.5	L	C
GD10	155000	T	18032.5	L	C
GD11	155000	T	18187.5	L	C
GD12	155000	T	18342.5	L	C
GD13	155000	T	18497.5	L	C
GD14	155000	T	18877.5	L	C
GD15	155000	T	19032.5	L	C
GD16	155000	T	19187.5	L	C
PCU1	10000	R	27505	R	T
PCU2	10000	R	27515	R	T
PCU3	10000	R	27525	R	T
PCU4	10000	R	27535	R	T
PCU5	10000	R	27545	R	T
PCU6	10000	R	27555	R	T
PCU7	10000	R	27565	R	T
PCU8	10000	R	27575	R	T
PCU9	10000	R	27585	R	T
PCU10	10000	R	27595	R	T
PCD1	3500	T	19266.75	R	T
PCD2	3500	T	19270.25	R	T
PCD3	3500	T	19273.75	R	T
PCD4	3500	T	19277.25	R	T
PCD5	3500	T	19280.75	R	T
PCD6	3500	T	19284.25	R	T
PCD7	3500	T	19287.75	R	T
PCD8	3500	T	19291.25	R	T
PCD9	3500	T	19294.75	R	T
PCD10	3500	T	19298.25	R	T
PCU11	10000	R	27505	L	T
PCU12	10000	R	27515	L	T
PCU13	10000	R	27525	L	T
PCU14	10000	R	27535	L	T
PCU15	10000	R	27545	L	T

RU15		UU3	UU		
RU16		UU4	UU		
FD1				UD1	UD
FD2				UD2	UD
FD3				UD3	UD
FD4				UD4	UD
FD5				UD5	UD
FD6				UD6	UD
FD7				UD7	UD
FD8				UD8	UD
FD9				UD1	UD
FD10				UD2	UD
FD11				UD3	UD
FD12				UD4	UD
FD13				UD5	UD
FD14				UD6	UD
FD15				UD7	UD
FD16				UD8	UD
RD1				GD1	GD
RD2				GD2	GD
RD3				GD3	GD
RD4				GD4	GD
RD5				GD5	GD
RD6				GD6	GD
RD7				GD7	GD
RD8				GD8	GD
RD9				GD9	GD
RD10				GD10	GD
RD11				GD11	GD
RD12				GD12	GD
RD13				GD13	GD
RD14				GD14	GD
RD15				GD15	GD
RD16				GD16	GD
PCU1		PCU1	GU		
PCU2		PCU2	GU		
PCU3		PCU3	GU		
PCU4		PCU4	GU		
PCU5		PCU5	GU		

PCU16	10000	R	27555	L	T
PCU17	10000	R	27565	L	T
PCU18	10000	R	27575	L	T
PCU19	10000	R	27585	L	T
PCU20	10000	R	27595	L	T
PCD11	3500	T	19266.75	L	T
PCD12	3500	T	19270.25	L	T
PCD13	3500	T	19273.75	L	T
PCD14	3500	T	19277.25	L	T
PCD15	3500	T	19280.75	L	T
PCD16	3500	T	19284.25	L	T
PCD17	3500	T	19287.75	L	T
PCD18	3500	T	19291.25	L	T
PCD19	3500	T	19294.75	L	T
PCD20	3500	T	19298.25	L	T

PCU6			PCU6	GU		
PCU7			PCU7	GU		
PCU8			PCU8	GU		
PCU9			PCU9	GU		
PCU10			PCU10	GU		
PCD1					PCD1	GD
PCD2					PCD2	GD
PCD3					PCD3	GD
PCD4					PCD4	GD
PCD5					PCD5	GD
PCD6					PCD6	GD
PCD7					PCD7	GD
PCD8					PCD8	GD
PCD9					PCD9	GD
PCD10					PCD10	GD
PCU11			PCU11	GU		
PCU12			PCU12	GU		
PCU13			PCU13	GU		
PCU14			PCU14	GU		
PCU15			PCU15	GU		
PCU16			PCU16	GU		
PCU17			PCU17	GU		
PCU18			PCU18	GU		
PCU19			PCU19	GU		
PCU20			PCU20	GU		
PCD11					PCD11	GD
PCD12					PCD12	GD
PCD13					PCD13	GD
PCD14					PCD14	GD
PCD15					PCD15	GD
PCD16					PCD16	GD
PCD17					PCD17	GD
PCD18					PCD18	GD
PCD19					PCD19	GD
PCD20					PCD20	GD

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S11. DIGITAL MODULATION PARAMETERS For each digital emission provide:

(a) Digital Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) No. of Phases	(e) Uncoded Data Rate (kbps)	(f) FEC Error Correction Coding Rate	(g) CDMA Processing Gain (dB)	(h) Total C/N Performance Objective (dB)	(i) Single Entry C/I Objective (dB)
D1	250MX7D	250000						
D2	20M0X7D	20000						
D3	10M0X7D	10000						
D4	5M00X7D	5000						
D5	2M50X7D	2500						
D6	1M25X7D	1250						

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Page 10: TT and C

S14. Is the space station(s) controlled and monitored remotely? If Yes, provide the location and telephone number of the TT and C control point(s): #Error

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Characteristics and
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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
b. Are the appropriate service area coverage requirements of § 25.143(b)(ii) and (iii), or § 25.145(c)(1) and (2) met?:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
c. Are the frequency tolerances of § 25.202(e) and the out-of-band emission limits of § 25.202(f)(1), (2) and (3) met?:	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A
In addition to the information required in this Form, the space station applicant is required to provide all the information specified in Section 25.114 of the Commission's rules, 47 C.F.R § 25.114.						

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