FCC 312 FEDERAL COMMUNICATIONS COMMISSION Page 1: General, Schedule S SATELLITE SPACE STATION AUTHORIZATIONS Frequency Bands, (Technical and Operational Description) and GSO Orbit

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: DIRECTV RB-79W	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): 15 Years	j. Number of transponders offered on a common carrier basis: 0
c. Construction Completion Date:	g. Total Number of Transponders: 24	k. Total Common Carrier Transponder Bandwidth: 0 MHz
d1. Est Launch Date Begin: d2. Est Launch Date End:	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 864 MHz	I. Orbit Type: Mark all boxes that apply:

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

Frequency Band Limits					f.
Lower Frequency (_Hz) Upper Frequency (_Hz)		e. T/R Mode	Nature of Service(s): List all that apply to this band		
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		
17300	М	17800	М	Т	Broadcasting Satellite Service - Video
24750	М	25250	М	R	Feeder Link for Broadcasting Satellite Service in FSS

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude	(Degrees	E/W):	b. Alternate C	Drbital Longitu	ude (Degrees E/W):	c. Reason for orbital location selection:		
78.8 W	78.8 W							
Longitudinal Tolerance or E/	Keeping:	f. Inclination I	Excursion or	Range of orbital are in which	ch adequate serv	/ice can be		
d. Toward West: e. Toward Fast:	0.05	Degrees	N/S Station-K Tolerance:	Reeping	g. Westernmost:	Degrees	<u>E/W</u>	
i. Reason for service are	selectior	n (Optional)	0.05	Degrees	h. Easternmost:			

Page 2: NGSO Orbits

S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

S4b. Total Number of Orbital Planes in Network or System:

S4c. Celestial Reference Body (Earth, Sun, Moon, etc.):

S4d. Orbit Epoch Date:

For each Orbital Plane Provide:

(e) Orbital	(f) No. of	(g) Inclination	(h) Orbital	(i) Apogee (km)	(j) Perigee (km)	(k) Right Ascension	(I) Argument of	Active Se	rvice Arc Rang	e (Degrees)
Plane No.	Satellites in	Angle (degrees)	Period			of the Ascending	Perigee	(m) Begin	(n) End Angle	(o) Other
	Plane		(Seconds)			Node (Deg.)	(Degrees)	Angle		

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

(a) Orbital	(b) Satellite	(c) Initial
Plane No.	Number	Phase Angle
		(Degrees)
		(209.000

NO NGSO DATA FILED

S6. SERVICE AREA CHARACTERISTICS for each service area provide:

(a) Service Area	(b) Type of Associated	(c) Service Area Diagram	(d) Service Area Description. Provide list of geographic areas (state postal codes or ITU 3-ltr codes), satellites or Figure No. of
ID	Station (Earth or	File Name (GXT File)	Service Area Diagram.
	Space)		
USMEX	S		Eastern US + Mexico
MEX	S		Mexico

Page 3: Service Areas

Page 4: Antenna Beams

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

(a)	(b)	Isotropic	Antenna	(e)	(f)	(g) Min.	(h) Polar-	(i) Polarization	(j) Service		Transmit				Receive		
Beam	T/R	Ga	ain	Pointing	Rotational	Cross-	ization	Alignment Rel.	Area ID	(k) Input	(I) Effective	(m)	(n)	(o) G/T	(p) Min.	Input Atten	uator (dB)
D	Mode	(c) Peak (dBi)	(d) Edge (dBi)	Error (Degrees)	Error (Degrees)	Polar Iso- lation (dB)	Switch- able? (Y/N)	Equatorial Plane (Degrees)		Losses (dB)	Output Power (W)	Max. EIRP (dBW)	System Noice Temp (k)	Max. Gain Pt. (db/K)	Saturation Flux Density (dBW/m2)	(q) Max. Value	(r) Step Size
RBR	R	40.6	30.6	0.1		27	N		USMEX				912	11	-90	17	1
RBL	R	40.6	30.6	0.1		27	Ν		USMEX				912	11	-90	17	1
TBR	Т	37.9	31.9	0.1		27	N		MEX			52.5					
TBL	Т	37.9	31.9	0.1		27	Ν		MEX			52.5					

(a) (b) (c) Co-or (d) GSO e) NGSO Antenna Gain (f) GSO Antenna Max. Power Flux Density (dBW/M2/Hz) Beam Ť/Ŕ Cross Ref. Contour Description Gain Contour Data At Angle of Arrival above horizontal (for emission with highest PFD) ID Mode Polar Orbital (Figure/Table/ Exhibit) (GXT File) (g) 5 Deg (h) 10 Deg (i) 15 Deg (j) 20 Deg (k) 25 Deg Mode ("C" Longitude (Deg. E/W) or" X") RBR С -78.8 CTV RB-79W RX_RH R RBL R С -78.8 CTV RB-79W RX_LHO TBR -78.8 CTV RB-79W TX_RH -135 С -135 -135 -135 -135 CTV RB-79W TX_LHO -78.8 -135 TBL С -135 -135 -135 -135

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. Page 5: Beam Diagrams

Page 6: Channels and Transponders

(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)
RT001	36000	Т	17326	R	С
RT003	36000	Т	17366	R	С
RT005	36000	Т	17406	R	С
RT007	36000	Т	17446	R	С
RT009	36000	Т	17486	R	С
RT011	36000	Т	17526	R	С
RT013	36000	Т	17566	R	С
RT015	36000	Т	17606	R	С
RT017	36000	Т	17646	R	С
RT019	36000	Т	17686	R	С
RT021	36000	Т	17726	R	С
RT023	36000	Т	17766	R	С
RT002	36000	Т	17326	L	С
RT004	36000	Т	17366	L	С
RT006	36000	Т	17406	L	С
RT008	36000	Т	17446	L	С
RT010	36000	Т	17486	L	С
RT012	36000	Т	17526	L	С
RT014	36000	Т	17566	L	С
RT016	36000	Т	17606	L	С
RT018	36000	Т	17646	L	С
RT020	36000	Т	17686	L	С
RT022	36000	Т	17726	L	С
RT024	36000	Т	17766	L	С
RR001	36000	R	24776	R	С
RR003	36000	R	24816	R	С
RR005	36000	R	24856	R	С
RR007	36000	R	24896	R	С
RR009	36000	R	24936	R	С
RR011	36000	R	24976	R	С

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

(a)	(b)	Receive	Band	Transmi	it Band
Transponder ID	Transponder Gain (dB)	(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
RB001	1	RR001	RBR	RT001	TBR
RB003	1	RR003	RBR	RT003	TBR
RB005	1	RR005	RBR	RT005	TBR
RB007	1	RR007	RBR	RT007	TBR
RB009	1	RR009	RBR	RT009	TBR
RB011	1	RR011	RBR	RT011	TBR
RB013	1	RR013	RBR	RT013	TBR
RB015	1	RR015	RBR	RT015	TBR
RB017	1	RR017	RBR	RT017	TBR
RB019	1	RR019	RBR	RT019	TBR
RB021	1	RR021	RBR	RT021	TBR
RB023	1	RR023	RBR	RT023	TBR
RB002	1	RR002	RBL	RT002	TBL
RB004	1	RR004	RBL	RT004	TBL
RB006	1	RR006	RBL	RT006	TBL
RB008	1	RR008	RBL	RT008	TBL
RB010	1	RR010	RBL	RT010	TBL
RB012	1	RR012	RBL	RT012	TBL
RB014	1	RR014	RBL	RT014	TBL
RB016	1	RR016	RBL	RT016	TBL
RB018	1	RR018	RBL	RT018	TBL
RB020	1	RR020	RBL	RT020	TBL
RB022	1	RR022	RBL	RT022	TBL
RB024	1	RR024	RBL	RT024	TBL

RR013	36000	R	25016	R	С
RR015	36000	R	25056	R	С
RR017	36000	R	25096	R	С
RR019	36000	R	25136	R	С
RR021	36000	R	25176	R	С
RR023	36000	R	25216	R	С
RR002	36000	R	24776	L	С
RR004	36000	R	24816	L	С
RR006	36000	R	24856	L	С
RR008	36000	R	24896	L	С
RR010	36000	R	24936	L	С
RR012	36000	R	24976	L	С
RR014	36000	R	25016	L	С
RR016	36000	R	25056	L	С
RR018	36000	R	25096	L	С
RR020	36000	R	25136	L	С
RR022	36000	R	25176	L	С
RR024	36000	R	25216	L	С

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)
M1	36M0G7W	36000	4	34800	0.4827		3	15.2

Page 7: Digital Modulation

Page 8: Analog Modulation

S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a)	(b) Emission	(c)	(d) Signal	(e)		Multi-channel Telephony			(j) Video	(k) Video	(I) Video	(m) SCPC/FM	(n) Total C/N	(o) Single
Analog Mod. ID	Designator	Assigned Bandwidth (kHz)	Туре	Channels per Carrier	(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index	Standard NTSC, PAL, etc.	Weighting (dB)	and SCPC/FM Modulation Index	Compander, Preemphasis, and Noise Weighting (dB)	Objective (dB)	Objective (dB)

Page 9: Typical Emissions

S13. TYPICAL EMISSIONS For each planned type of emission provide:

Associated		Modulation ID		(e) Carriers	(f) Carrier	(g)Noise Budget	(h) Energy	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)			
(a) Start	ransponder ID Range		(d) Analog (Table S12)	per Transponder	(kHz)	No.)	Bandwidth	(i)Assoc. Stn. Max.	Assoc. Station Transmit Power (dBW)		EIRP (dBW)		(n) Max. Power Flux Density	(o)Assoc. Stn Rec.
	(0) End						(KLIZ)	Antenna Gain (dBi)	(j) Min.	(k) Max.	(I) Min.	(m) Max.	(dBW/m2/Hz)	G/T (dB/K)
RB001	RB024	M1		1				64.7	11	16	46.5	52.5	-125	20.2

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

Page 11: Characteristics and Certifications

S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?:	X	YES		NO		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		YES		NO	X	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	? X	YES		NO		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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