

S1. GENERAL INFORMATION Complete for all satellite applications.

a. Space Station or Satellite Network Name: SIRIUS FM-6		e. Estimated Date of Placement into Service: 3/15/2012		i. Will the space station(s) operate on a Common Carrier Basis: N	
b. Construction Commencement Date: 12/28/2007		f. Estimated Lifetime of Satellite(s): 15 Years		j. Number of transponders offered on a common carrier basis: 0	
c. Construction Completion Date: 2/10/2011		g. Total Number of Transponders: 3		k. Total Common Carrier Transponder Bandwidth: 0 MHz	
d1. Est Launch Date Begin: 10/21/2011	d2. Est Launch Date End: 3/1/2012	h. Total Transponder Bandwidth (no. transponders x Bandwidth) 12.5 MHz		i. Orbit Type: Mark all boxes that apply: <input checked="" type="checkbox"/> GSO <input type="checkbox"/> NGSO	

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				e. T/R Mode	f. Nature of Service(s): List all that apply to this band
Lower Frequency (.Hz)		Upper Frequency (.Hz)			
a. Numeric	b. Unit (K/M/G)	c. Numeric	d. Unit (K/M/G)		
2320.0	M	2332.5	M	T	Satellite Digital Audio Radio Service
7060.0	M	7072.5	M	R	Fixed Satellite Service
7051.5	M	7052.5	M	R	Fixed Satellite Service
7055.5	M	7056.5	M	R	Fixed Satellite Service
2321.35	M	2321.65	M	T	Satellite Digital Audio Radio Service
2321.85	M	2322.15	M	T	Satellite Digital Audio Radio Service
2330.35	M	2330.65	M	T	Satellite Digital Audio Radio Service
2330.85	M	2331.15	M	T	Satellite Digital Audio Radio Service

S3. ORBITAL INFORMATION FOR GEOSTATIONARY SATELLITES ONLY:

a. Nominal Orbital Longitude (Degrees E/W): 115.2 W		b. Alternate Orbital Longitude (Degrees E/W):		c. Reason for orbital location selection: The orbital location provides good satellite spatial diversity for the eventual GEO constellation and provides high elevation angles to all of CONUS, which is very important for the link between the satellite and the mobile user terminals in CONUS. The high elevation angle minimizes the risk of signal blockage due to buildings and foliage.	
Longitudinal Tolerance or E/W Station-Keeping:		f. Inclination Excursion or N/S Station-Keeping Tolerance:		Range of orbital are in which adequate service can be provided (Optional):	
d. Toward West:	0.05 Degrees	0.05 Degrees		g. Westernmost:	W
e. Toward East:	0.05 Degrees			h. Easternmost:	W
i. Reason for service are selection (Optional):					

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S4. ORBITAL INFORMATION FOR NON-GEOSTATIONARY SATELLITES ONLY

S4a. Total Number of Satellites in Network or System:

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

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

S4d. Orbit Epoch Date:

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

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)

NO NGSO DATA FILED

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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.
SA1S	S		CONUS
SA2X	S		Eastern & Central CONUS

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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			Input Attenuator (dB)	
										(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)	(q) Max. Value	(r) Step Size
		(c) Peak (dBi)	(d) Edge (dBi)														
XU1	R	31	30.1	0.18	1	30	N		SA2X				649	2.9	-108	20	0.5
SD1	T	34.7	26.5	0.18	1	30	N		SA1S	1	1000	71.6					
OMN	R	9	-4	0	1	30	N		SA2X				630	-19			
OMN	T	9	-4	0	1	30	N		SA1S	6.9	4.1	15.1					
SAT	T	13.4	12.7	0	1	30	N		SA1S	7	4	19.4					

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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
XU1	R	C	-115.2		XU1.gxt					
SD1	T	C	-115.2		SD1.gxt	-120.8	-120.8	-120.8	-120.8	-120.8
SAT	T	C	-115.2		SATM.gxt	-161.2	-161.2	-161.2	-161.2	-161.2

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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)
U001	4500	R	7062.29	R	C
U002	4500	R	7070.21	R	C
D001	4500	T	2322.29	L	C
D002	4500	T	2330.21	L	C
CMD1	1000	R	7052.0	L	T
CMD2	1000	R	7056.0	L	T
TLM1	300	T	2321.5	R	T
TLM2	300	T	2322.0	R	T
TLM3	300	T	2330.5	R	T
TLM4	300	T	2331.0	R	T
U003	12500	R	7066.25	R	C
D003	12500	T	2326.25	L	C

(a) Transponder ID	(b) Transponder Gain (dB)	Receive Band		Transmit Band	
		(c) Channel No.	(d) Beam ID	(e) Channel No.	(f) Beam ID
BL01	130	U001	XU1	D001	SD1
BL02	130	U002	XU1	D002	SD1
C001		CMD1	OMNX1		
C002		CMD2	OMNX1		
T001				TLM1	OMNS1
T002				TLM2	OMNS1
T003				TLM3	OMNS1
T004				TLM4	OMNS1
T005				TLM1	SATM
T006				TLM2	SATM
T007				TLM3	SATM
T008				TLM4	SATM
BL03	130	U003	XU1	D003	SD1

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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	4M50G7E	4500	4	7517	0.6667		5	
D2	4M50G7E	4500	8	3758	0.3333		5	

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S12. ANALOG MODULATION PARAMETERS For each analog emission provide:

(a) Analog Mod. ID	(b) Emission Designator	(c) Assigned Bandwidth (kHz)	(d) Signal Type	(e) Channels per Carrier	Multi-channel Telephony				(j) Video Standard NTSC, PAL, etc.	(k) Video Noise- Weighting (dB)	(l) Video and SCPC/FM Modulation Index	(m) SCPC/FM Compander, Preemphasis, and Noise Weighting (dB)	(n) Total C/N Performance Objective (dB)	(o) Single Entry C/I Objective (dB)
					(f) Ave. Companded Talker Level (dBm0)	(g) Bottom Baseband Freq. (MHz)	(h) Top Baseband Freq. (MHz)	(i) RMS Modulation Index						
A1	1M00F1D	1000	TC	1									36.2	48.4
A2	300KG1D	300	TM	1									50.1	63.8

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

Associated Transponder ID Range (a) Start (b) End		Modulation ID		(e) Carriers per Transponder	(f) Carrier Spacing (kHz)	(g) Noise Budget Reference (Table No.)	(h) Energy Dispersal Bandwidth (kHz)	Receive Band (Assoc. Transmit Stn)			Transmit Band (This Space Station)		
		(c) Digital (Table S11)	(d) Analog (Table S12)					(i) Assoc. Stn. Max. Antenna Gain (dBi)	Assoc. Station Transmit Power (dBW) (j) Min. (k) Max.		EIRP (dBW) (l) Min. (m) Max.		(n) Max. Power Flux Density (dBW/m ² /Hz)
BL01	BL02	D1		1		S-band PRM				63.4	71.6	-120.8	-18.3
C001	C002		A1	1		X-band CMD	50.5	15.5	24.5	66	75		27.7
T001	T004		A2	1		S-band TLM				2.1	15.1	-165.5	19.4
T005	T008		A2	1		S-band TLM				18.7	19.4	-161.2	19.4

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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): Yes

Remote Control (TT C) Location(s):

S14a: Street Address: 24 Vernon Crossing Road			
S14b. City: Vernon	S14c. County: Sussex	S14d. State/Country NJ	S14e. Zip Code: 07462
S14f. Telephone Number: 973-764-4021		S14g. Call Sign of Control Station (if appropriate): E040363	

Remote Control (TT C) Location(s):

S14a: Street Address: 24 Vernon Crossing Road			
S14b. City: Vernon	S14c. County: Sussex	S14d. State/Country NJ	S14e. Zip Code: 07462
S14f. Telephone Number: 973-764-4021		S14g. Call Sign of Control Station (if appropriate): E060276	

Remote Control (TT C) Location(s):

S14a: Street Address: 2875 Fork Creek Church			
S14b. City: Ellenwood	S14c. County: Clayton	S14d. State/Country GA	S14e. Zip Code: 30294
S14f. Telephone Number: 404-381-2001		S14g. Call Sign of Control Station (if appropriate): E040204	

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S15. SPACECRAFT PHYSICAL CHARACTERISTICS:

S15a. Mass of spacecraft without fuel (kg): 2975	Spacecraft Dimensions (meters)	Probability of Survival to End of Life (0.0 - 1.0)
S15b. Mass of fuel and disposables at launch (kg): 3105		
S15c. Mass of spacecraft and fuel at launch (kg): 6080	S15f. Length (m): 32.4	S15i. Payload: 0.9
S15d. Mass of fuel, in orbit, at beginning of life (kg): 733	S15g. Width (m): 18	S15j. Bus: 0.85
S15e. Deployed Area of Solar Array (square meters): 89	S15h. Height (m): 11.1	S15k. Total: 0.76

S16. SPACECRAFT ELECTRICAL CHARACTERISTICS:

Spacecraft Subsystem	Electrical Power (Watts) At Beginning of Life		Electrical Power (Watts) At End of Life	
	At Equinox	At Solstice	At Equinox	At Solstice
Payload (Watts):	(a): 12978	(f): 12978	(k): 12978	(p): 12978
Bus (Watts):	(b): 3493	(g): 1684	(l): 3493	(q): 1684
Total (Watts):	(c): 16471	(h): 14662	(m): 16471	(r): 14662
Solar Array (Watts):	(d): 20895	(i): 18499	(n): 18364	(s): 16403
Depth of Battery Discharge (%):	(e) 55.5 %	(j) 0 %	(o) 58.6 %	(t) 0 %

S17. CERTIFICATIONS:

a. Are the power flux density limits of § 25.208 met?	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" 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 type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" 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 type="checkbox"/> YES	<input type="checkbox"/> NO	<input checked="" 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.