

S2786 SAT-MOD-20130114-00007 IB2013000105
XM Radio LLC
XM-5



File # SAT-MOD-20130114-00007
Call Sign S2786 Grant Date 03/14/13
(or other identifier)
Term Dates see
From 03/14/13 To: conditions
Approved: Stephen J. Duall

Approved by OMB
3060-0678

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File Number: SAT-MOD-20130114-00007

Stephen J. Duall
Chief, Satellite Policy Branch

FCC APPLICATION FOR SPACE AND EARTH STATION:MOD OR AMD – MAIN FORM	FCC Use Only
FCC 312 MAIN FORM FOR OFFICIAL USE ONLY	

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
Modification of License for XM-5, call sign S2786, Jan 2013

1-8. Legal Name of Applicant

Name:	XM Radio LLC	Phone Number:	202-380-1383
DBA Name:		Fax Number:	202-380-4981
Street:	1221 Avenue of the Americas 36th Floor	E-Mail:	james.blitz@siriusxm.com
City:	New York	State:	NY
Country:	USA	Zipcode:	10020 -
Attention:	James S Blitz		

XM Radio LLC
IBFS File No. SAT-MOD-20130114-00007
Call Sign S2786

The application of XM Radio LLC (XM Radio), IBFS File No. SAT-MOD-20130114-00007, to remove the license conditions that restrict XM Radio's ability to activate the communications payloads on its Satellite Digital Audio Radio Service XM-5 space station (Call Sign S2786) in the 2320-2345 MHz (space-to-Earth) and 7025-7075 MHz (Earth-to-space) frequency bands IS GRANTED. All operations of the XM-5 space station must be in accordance with the technical specifications set forth in its application, Federal Communication Commission (Commission) rules, and the conditions set forth below.

1. XM Radio is authorized to continue to operate XM-5 at the 85.15° W.L. orbital location with an east-west station-keeping tolerance of +/-0.1 degrees pursuant to its previously granted waiver of Section 25.210(j) of the Commission's rules, 47 C.F.R. § 25.210(j), as conditioned in the original grant of waiver. See IBFS File No. SAT-MOD-20101216-00264 (granted March 8, 2011).


2. XM Radio Inc. is authorized to operate XM-5 at the 85.15° W.L. orbital location with the capability of operating in the 7025-7075 MHz frequency band (Earth-to-space) designated for SDARS feeder-link use, in accordance with the technical specifications set forth in IBFS File No. SAT-LOA-20090217-00025 and consistent with our rules. Prior to operating XM-5 in the 7025-7075 MHz band at 85.15° W.L., XM Radio must successfully coordinate these operations with Fixed and Mobile service stations that are lawfully operating in this band.

3. XM Radio must operate the XM-5 space station in compliance with international coordination agreements with Canada and Mexico that limit the power flux density level from U.S.-licensed DARS space stations into Canada and Mexico.

4. Grant of this modification does not change the expiration date of XM-5's authorization, which is December 2, 2018.

5. XM Radio has 30 days from the date of this grant to decline this authorization as conditioned. Failure to respond within that period will constitute formal acceptance of the authorization as conditioned.

6. This action is taken on delegated authority pursuant to 47 C.F.R. § 0.261 and is effective upon release. Petitions for reconsideration under 47 C.F.R. § 1.106 or applications for review under 47 C.F.R. § 1.115 may be filed within 30 days of the date of the Public Notice announcing this action.

 GRANTED* International Bureau *with conditions	File # <u>SAT-MOD-20130114-00007</u>
	Call Sign <u>S2786</u> Grant Date <u>03/14/13</u> (or other identifier)
	Term Dates see From <u>03/14/13</u> To: <u>conditions</u>
	Approved: <u>Stephen J. Duall</u> Stephen J. Duall Chief, Satellite Policy Branch

9-16. Name of Contact Representative

Name:	Karis Hastings	Phone Number:	202-599-0975
Company:	SatCom Law LLC	Fax Number:	
Street:	1317 F Street, N.W. Suite 400	E-Mail:	karis@satcomlaw.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20004-
Attention:		Relationship:	Legal Counsel

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
- a2. Space Station

- (N/A) b1. Application for License of New Station
- (N/A) b2. Application for Registration of New Domestic Receive-Only Station
- b3. Amendment to a Pending Application
- b4. Modification of License or Registration
- b5. Assignment of License or Registration
- b6. Transfer of Control of License or Registration
- b7. Notification of Minor Modification
- (N/A) b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
- (N/A) b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
- (N/A) b10. Other (Please specify)
- (N/A) b11. Application for Earth Station to Access a Non-U.S. satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States
- (N/A) b12. Application for Database Entry
- b13. Amendment to a Pending Database Entry Application
- b14. Modification of Database Entry

<p>17c. Is a fee submitted with this application?</p> <p><input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).</p> <p><input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee</p> <p><input type="radio"/> Other (please explain):</p>	
<p>17d.</p> <p>Fee Classification BFY – Space Station Modification (Geostationary)</p>	
<p>18. If this filing is in reference to an existing station, enter:</p> <p>(a) Call sign of station: S2786</p>	<p>19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:</p> <p>(a) Date pending application was filed: (b) File number: SATMOD2010121600264</p>

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s): Select all that apply:	
<input type="checkbox"/> a. Fixed Satellite <input type="checkbox"/> b. Mobile Satellite <input type="checkbox"/> c. Radiodetermination Satellite <input type="checkbox"/> d. Earth Exploration Satellite <input type="checkbox"/> e. Direct to Home Fixed Satellite <input checked="" type="checkbox"/> f. Digital Audio Radio Service <input type="checkbox"/> g. Other (please specify)	
21. STATUS: Choose the button next to the applicable status. Choose only one. <input checked="" type="radio"/> Common Carrier <input checked="" type="radio"/> Non-Common Carrier	22. If earth station applicant, check all that apply. <input type="checkbox"/> Using U.S. licensed satellites <input type="checkbox"/> Using Non-U.S. licensed satellites
23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings. Choose one. Are these facilities: <input checked="" type="radio"/> Connected to a Public Switched Network <input type="radio"/> Not connected to a Public Switched Network <input checked="" type="radio"/> N/A	
24. FREQUENCY BAND(S): Place an 'X' in the box(es) next to all applicable frequency band(s). <input type="checkbox"/> a. C-Band (4/6 GHz) <input type="checkbox"/> b. Ku-Band (12/14 GHz) <input checked="" type="checkbox"/> c. Other (Please specify upper and lower frequencies in MHz.) Frequency Lower: 2320 Frequency Upper: 2345 (Please specify additional frequencies in an attachment)	

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY:

- Transmit/Receive Transmit-Only Receive-Only N/A

"For Space Station applications, select N/A."

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)

- a — authorization to add new emission designator and related service
- b — authorization to change emission designator and related service
- c — authorization to increase EIRP and EIRP density
- d — authorization to replace antenna
- e — authorization to add antenna
- f — authorization to relocate fixed station
- g — authorization to change frequency(ies)
- h — authorization to add frequency
- i — authorization to add Points of Communication (satellites & countries)
- j — authorization to change Points of Communication (satellites & countries)
- k — authorization for facilities for which environmental assessment and radiation hazard reporting is required
- l — authorization to change orbit location
- m — authorization to perform fleet management
- n — authorization to extend milestones
- o — Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as an exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments. Yes No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30–34.

29. Is the applicant a foreign government or the representative of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No
30. Is the applicant an alien or the representative of an alien?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
31. Is the applicant a corporation organized under the laws of any foreign government?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A
32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> N/A

33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country?

Yes No N/A

34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote.

BASIC QUALIFICATIONS

35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules?
If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.

Yes No

36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.

Yes No

37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.

Yes No

38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances

Yes No

39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If yes, attach as an exhibit, an explanation of the circumstances.

Yes No

Exhibit A

40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.

Exhibit B

41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.

Yes No

42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.

Yes No

42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?

43. Description. (Summarize the nature of the application and the services to be provided). (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.)

XM Radio LLC requests modification of the license of XM-5, call sign S2786, to remove the license conditions that restrict XM Radio's ability to activate the XM-5 communications payloads.

Narrative

43a. Geographic Service Rule Certification

By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25.

A

By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements.

B

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstrating this claim are attached.

C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Governmental Entity
- Other (please specify)

45. Name of Person Signing
James S. Blitz

46. Title of Person Signing
Vice President, Regulatory Counsel

→

WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT
(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION
(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of Application by)
)
XM RADIO LLC) Call Sign S2786
)
For Modification of the XM-5 License)

APPLICATION OF XM RADIO LLC

XM Radio LLC (“XM Radio”) hereby applies to modify the license for its XM-5 spacecraft, Call Sign S2786, to remove the license conditions that restrict XM Radio’s ability to activate the XM-5 communications payloads. No changes to the space station’s orbital location or other operating parameters are proposed. Granting the requested modification will facilitate future testing of XM-5’s ability to perform its backup functions, and will serve the public interest by permitting XM Radio to better prepare for and respond to possible future circumstances that would require use of XM-5.

A completed FCC Form 312 is attached, and XM Radio incorporates by reference the technical information previously provided in support of XM-5.¹

BACKGROUND

The Commission previously authorized XM-5 to serve as an in-orbit spare for XM Radio’s fleet of satellite digital audio radio service (“SDARS”) spacecraft that provide a high-quality, continuous, multi-channel audio service throughout the United States.² XM-5 is

¹ See Call Sign S2786, File Nos. SAT-LOA-20090217-00025 & SAT-MOD-20101216-00264.

² See Call Sign S2786, File Nos. SAT-LOA-20090217-00025, grant-stamped Aug. 31, 2009, & SAT-MOD-20101216-00264, grant-stamped Mar. 8, 2011 (“XM-5 License”).

also equipped with frequencies allowing it to serve as back-up capacity for the SDARS services of XM Radio's affiliate, Satellite CD Radio LLC ("Satellite CD Radio").³

The terms of the XM-5 License limit the circumstances in which the satellite's communications payloads can be activated. Specifically, the license provides that XM Radio can operate XM-5 as a "non-transmitting" in-orbit spare satellite.⁴ XM Radio is authorized to perform telemetry and command transmissions to maintain the satellite at its assigned orbit location.⁵ XM Radio is permitted to activate the XM-5 communications payloads only "in the event of a service outage of the XM-3 (Call Sign: S2617), XM-4 (Call Sign: S2616), FM-1, FM-2, FM-3 (Call Sign: S2105), or FM-5 (Call Sign: S2710) space stations."⁶ If XM Radio does activate XM-5 in response to such an outage, the company is required to notify the Commission, in writing, within three business days.⁷

Since XM-5 was launched, no issues affecting the primary spacecraft in the XM Radio or Satellite CD Radio fleets have required activating XM-5's communications payloads, nor does the company have any reason to expect that any such issues may arise. However, XM Radio has performed a number of tests using XM-5 to verify the satellite's ability to provide substitute capacity in the event of such an anomaly.⁸ In each case, XM Radio has requested, and

³ *See id.*

⁴ XM-5 License, Attachment at ¶ 2.

⁵ *Id.*

⁶ *Id.*, Attachment at ¶ 3.

⁷ *Id.*, Attachment at ¶ 4.

⁸ *See, e.g.*, File Nos. SAT-STA-20110103-00001, grant-stamped Jan. 13, 2011 & SAT-STA-20110624-00121, grant-stamped July 14, 2011 (testing XM-5 as a substitute for XM-3); File

the Commission's International Bureau has granted special temporary authority ("STA") to permit such testing given the conditions included in the XM-5 License.

XM Radio anticipates the need to perform similar tests on a regular basis in the future to ensure that XM-5 can be promptly activated in response to an anomaly, should one arise. In order to facilitate such testing, XM Radio seeks modification of the XM-5 License to remove the conditions restricting XM Radio's ability to activate the XM-5 communications payloads.

MODIFICATION

XM Radio requests that the Commission modify the XM-5 License by deleting paragraphs 2, 3, and 4 of the conditions of grant. As discussed above, these paragraphs authorize XM-5 to operate as a non-transmitting spare satellite whose communications payloads can be activated only in the event of a service outage and with subsequent written notification to the Commission.

XM Radio seeks removal of these conditions because they unnecessarily impede the company's ability to activate the XM-5 communications payloads. To be clear, XM Radio has no current plans to use XM-5 as anything other than an in-orbit spare. However, to help prepare to operate XM-5 in that role if the need arises, XM Radio requires the flexibility to perform periodic testing using the satellite's communications capacity. As a result of the restrictions in the XM-5 License, such testing has been possible only pursuant to STA, imposing an administrative burden on both XM Radio and Commission staff.

Nos. SAT-STA-20110919-00184, grant-stamped Oct. 6, 2011, & SAT-STA-20111104-00212, grant-stamped Nov. 9, 2011 (testing XM-5 as a substitute for FM-5 or the Sirius XM HEO constellation and evaluating performance of XM-5 in the satellite frequency bands used for the legacy XM Radio terrestrial repeaters).

XM Radio proposes no change in the technical parameters for operating XM-5 that are on file with the Commission. Instead, XM Radio simply seeks the ability to activate XM-5's communications payloads consistent with those technical parameters at the company's discretion, without the need for further enabling authority from the Commission.

Removing the conditions to permit such activation will not result in harmful interference to the operations of any other spacecraft. XM Radio operates the only satellites authorized to use either S-band or X-band frequencies located within two degrees of XM-5's assigned orbital location of 85.15° W.L. XM Radio does not share S-band spectrum with other satellite systems (except its affiliate, Satellite CD Radio), and the SDARS downlink frequencies are not subject to two degree spacing rules. XM Radio and its affiliate will internally coordinate frequency use among the satellites in their fleets.

Similarly, the operations of XM-5 permitted under the requested modification will not result in harmful interference to regularly authorized terrestrial operations. XM Radio will use earth stations to communicate with XM-5 that have been authorized to do so and have been coordinated with terrestrial licensees. In the event using an earth station in a manner that varies from the terms of its license is proposed, the company will request an appropriate earth station STA.

The Commission has generally afforded satellite operators the flexibility to design and modify their networks in response to customer requirements, absent compelling countervailing public interest considerations.⁹ In addition, the Commission has consistently

⁹ See, e.g. *AMSC Subsidiary Corporation*, 13 FCC Rcd 12316 at ¶ 8 (IB 1998) (the Commission generally leaves space station design decisions to the licensee "because the licensee is in a better position to determine how to tailor its system to meet the particular needs of its customers.") (footnote omitted).

recognized that ensuring continuity of service is an important public interest objective.¹⁰ The requested modification will facilitate XM Radio's ability to perform routine testing and other performance checks to help ensure that it is prepared to activate XM-5 as needed if an anomaly occurs affecting another SDARS spacecraft. Accordingly, the requested modification will serve the public interest by permitting XM Radio to optimize use of its satellite assets to help ensure service reliability.

For the foregoing reasons, XM Radio respectfully requests that the Commission modify the XM-5 License by removing paragraphs 2, 3, and 4 of the conditions of grant.

Respectfully submitted,

XM Radio LLC

/s/ James S. Blitz

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Dated: January 14, 2013

¹⁰ See, e.g., *DIRECTV Enterprises, LLC, Request for Special Temporary Authority to Conduct Telemetry, Tracking and Control During the Relocation of DIRECTV 1 to the 72.5° W.L. Orbital Location*, Order and Authorization, DA 05-1890 (Sat. Div. rel. July 14, 2005) at ¶ 18 (granting STA to relocate spacecraft to a location where it will replace a satellite with failing solar panels “will enable DIRECTV to maintain continuity of DBS service to its customers”); *DIRECTV Enterprises, LLC, Application for Authorization to Operate DIRECTV 5, a Direct Broadcast Satellite, at the 109.8° W.L. Orbital Location*, Order and Authorization, DA 05-2654 (Sat. Div. rel. Oct. 5, 2005) at ¶ 8 (“DIRECTV’s proposal to provide DBS service from this location will serve the public interest, convenience and necessity in that it will ensure continuity of service to DIRECTV subscribers”).