

File # SAT- STA- 20100917- 00194

Call Sign S2786 Grant Date 10 / 22 / 10

(or other identifier) Term Dates period of

From 10 / 26 / 10 To: 30 days

Approved: *Stephen J. Duall*

Stephen J. Duall
Chief, Satellite Policy Branch

Approved by OMB
3060-0678



Date & Time Filed: Sep 17 2010 7:16:57:963PM
File Number: SAT-STA-20100917-00194
Callsign:

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY

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APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:
XM-5 (Call Sign S2786) 30-Day STA Request to permit in-orbit testing

1. Applicant

Name:	XM Radio Inc.	Phone Number:	202-380-4000
DBA Name:		Fax Number:	202-380-4981
Street:	1500 Eckington Place, NE	E-Mail:	james.blitz@siriusxm.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20002 -
Attention:	James S. Blitz		

Attachment to Grant
Application of XM Radio Inc. for Special Temporary Authority
IBFS File No. SAT-STA-20100917-00194

The request of XM Radio Inc. (XM Radio) for special temporary authority (STA), File No. SAT-STA-20100917-00194, is granted for a period of up to 30 days, commencing on October 26, 2010, to permit in-orbit testing (IOT) of the XM-5 space station (Call Sign S2786) at the 80° W.L. orbital location. Accordingly, XM Radio is authorized to conduct Telemetry, Tracking and Control (TT&C) operations necessary to maintain XM-5 at the 80° W.L. orbital location using the 7056.8450-7074.8690 MHz (Earth-to-space) frequency band. Additionally, XM Radio is authorized to perform TT&C operations necessary to drift XM-5 to the 80° W.L. orbital once the space station is in orbit, to support XM-5's operations while it is being tested at the 80° W.L. orbital location, and to drift XM-5 to its authorized orbital location of 85.2° W.L. upon completion of IOT, using the following frequencies: 2336.7, 2337.2, 2334.0, or 2342.5 MHz (space-to-Earth, Right Hand Circular Polarization), and 7043.0 MHz and 7074 MHz (Left Hand Circular Polarization). Finally, XM Radio is authorized to operate the communications payload for XM-5 in the 2332.5-2345.0 MHz (space-to-Earth) frequency band for purposes of IOT only. This authorization is granted subject to the technical parameters specified in XM's application, the rules of the Federal Communication Commission (Commission), and the following conditions.

1. All operations shall be on an unprotected and non-harmful interference basis, i.e., XM Radio shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radiocommunication system.
2. In the event of any harmful interference as a result of the operations of XM -5 at the 80° W.L. orbit location or during drift to the 85.2° W.L. orbital location, XM Radio shall cease operations immediately upon notification of such interference and shall inform the Commission, in writing, immediately of such an event.
3. XM Radio's operations at 80° W.L. shall be limited to IOT operations and shall not include the provision of commercial services.
4. XM Radio shall coordinate its IOT and TT&C operations with existing geostationary satellites to ensure that no unacceptable interference results from its IOT operations at the 80° W.L. orbital location or from its TT&C operations during the drift from 80 °W.L. to its assigned orbital location at 85.2° W.L.
5. During in-orbit testing, XM Radio shall maintain the XM-5 satellite within an east/west longitudinal station-keeping tolerance of ± 0.05 degrees of the 80° W.L. orbital location.
6. XM Radio is afforded 30 days from the date of release of this grant and authorization to decline this authorization as conditioned. Failure to respond within this period will constitute formal acceptance of the authorization as conditioned.
7. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately. Petitions for reconsideration under Section 1.106 or applications for review under Section 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within 30 days of the date of the public notice indicating that this action was taken.



*with conditions

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(or other identifier)
Term Dates period of
From 10/26/10 To: 30 days
Approved: Stephen J. Duall

Stephen J. Duall
Chief, Satellite Policy Branch

2. Contact			
Name:	Karis A. Hastings, Esq.	Phone Number:	202-637-5767
Company:	Hogan Lovells US LLP	Fax Number:	202-637-5910
Street:	555 Thirteenth Street, NW	E-Mail:	karis.hastings@hoganlovells.com
City:	Washington	State:	DC
Country:	USA	Zipcode:	20004 -1109
Attention:		Relationship:	
(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)			
3. Reference File Number or Submission ID			
4a. Is a fee submitted with this application?			
<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).			
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee			
<input type="radio"/> Other (please explain):			
4b. Fee Classification CRY - Space Station (Geostationary)			
5. Type Request			
<input type="radio"/> Change Station Location <input type="radio"/> Extend Expiration Date <input checked="" type="radio"/> Other			
6. Temporary Orbit Location			7. Requested Extended Expiration Date

8. Description (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 Inc. (XM) requests special temporary authority for 30 days to perform in-orbit testing of XM-5 (Call Sign S2786) at 80 W.L.

9. 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

10. Name of Person Signing
James S. Blitz

11. Title of Person Signing
Vice President, Regulatory Counsel

12. Please supply any need attachments.

Attachment 1: Attachment 1

Attachment 2:

Attachment 3:

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).

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

In the Matter of Applications by)	
)	
XM RADIO INC. and)	Call Signs S2786 & E040204
SIRIUS XM RADIO INC.)	Call Sign E080168
)	
For Special Temporary Authority to)	
Test XM-5 at 80° W.L.)	

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

XM Radio Inc. (“XM Radio”) and Sirius XM Radio Inc. (“Sirius XM” and with XM Radio, the “Sirius XM Parties”), respectfully request space station and earth station special temporary authority (“STA”) for a period of up to 30 days to permit in-orbit testing (“IOT”) of the XM-5 space station at 80° W.L. using XM Radio’s and Sirius XM’s Ellenwood, Georgia earth stations. Specifically, the Sirius XM Parties request: (1) authority to perform Telemetry, Tracking and Control (“TT&C”) in order to position XM-5 at 80° W.L.; (2) authority to operate the TT&C and communications payloads of XM-5 at 80° W.L. during IOT; and (3) authority to perform TT&C in order to drift XM-5 to 85.2° W.L. following the completion of IOT. The call signs of the space station and earth stations for which STA is requested are listed in the caption above.

XM Radio is licensed to launch and operate XM-5 at 85.2° W.L. Grant of authority to perform IOT for XM-5 at 80° W.L. will serve the public interest by permitting testing to occur without disrupting existing services being provided from the nominal 85° W.L. orbital location. Launch of XM-5 is currently scheduled for October 14, and the Sirius XM Parties respectfully request action on the instant application to accommodate this schedule. The

Sirius XM Parties also request that the 30-day period of the STA commence ten days after launch of XM-5.

XM-5 is authorized 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.¹ XM-5 is also equipped with frequencies allowing it to serve as back-up capacity for the SDARS services of XM Radio's affiliate, Satellite CD Radio.²

Testing of XM-5 will use XM Radio's earth station call sign E040204 on the frequencies for which the earth station and XM-5 are authorized, with uplinks in the X-band, 7056.8450-7074.8690 MHz, and downlinks in the S-band, 2332.5-2345.0 MHz.³ The payload testing transmissions from call sign E040204 will include intermittent use of an unmodulated carrier operating at the earth station's maximum authorized EIRP of 78 dBW.

Sirius XM's earth station call sign E080168 will be used to perform TT&C during the drifts to and from 80° W.L. and while XM-5 is being tested at that location. During the drift, the Sirius XM Parties will use only the TT&C frequencies authorized for XM-5.⁴ Because call sign E080168 is not currently authorized to operate on these specific frequencies, Sirius XM

¹ See File No. SAT-LOA-20090217-00025 (Call Sign S2786), grant-stamped Aug. 31, 2009.

² See *id.*

³ As noted above, XM-5 is also capable of operating in the S-band frequencies authorized to Satellite CD Radio, 2320-2332.5 MHz, but no testing of this portion of the XM-5 payload is planned.

⁴ Telemetry carriers for XM-5 are at 2336.7, 2337.2, 2334.0, or 2342.5 MHz, RHCP, and command carriers are at 7043.0 MHz and 7074 MHz, LHCP.

requests special temporary authority to use these frequencies to communicate with XM-5 for the purposes of providing TT&C during the requested 30-day period.

The proposed TT&C and testing will not cause harmful interference to the operations of any other spacecraft. The Sirius XM Parties will follow industry practices for coordinating TT&C transmissions during relocation. If any interference occurs during the drift, the Sirius XM Parties will take all reasonable steps to eliminate it.

There are no satellites using either S-band or X-band frequencies within two degrees of 80° 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.

The proposed testing and TT&C will also not result in harmful interference to regularly authorized terrestrial operations. Call sign E040204 has been fully coordinated with terrestrial licensees for the frequencies and EIRP levels proposed for use here, and the Sirius XM Parties will not exceed the previously-coordinated parameters during the proposed testing.

Call sign E080168 has been coordinated with terrestrial licensees for operations in the 7025-7072.5 MHz band with a geostationary satellite positioned at the nominal 96° W.L. orbital location. Although not contemplated in the original frequencies and orbital arc for which this station was coordinated, the temporary operation of call sign E080168 with XM-5 as proposed herein does not pose a material risk of interference. The E080168 antenna is located at the same facility in Ellenwood as call sign E040204, and as noted above, that station has been fully coordinated with terrestrial licensees for the frequencies and EIRP levels proposed for use here. The TT&C transmissions using the antenna licensed under E080168 will take place in frequencies and at power levels for which E040204 has been coordinated. Accordingly, no

additional coordination should be required to permit temporary use of the E080168 antenna during the brief period of the requested STA.⁵ In addition, and in any event, the Sirius XM Parties will conduct all testing on a non-harmful interference basis, and will cease transmissions promptly in the event any harmful interference is caused by such operations.

XM Radio and Sirius XM hereby certify that no party to this application is subject to a denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. § 862.

⁵ To the extent necessary, the Sirius XM Parties seek a waiver of Section 25.203(c) to permit temporary use of call sign E080168 for TT&C operations with XM-5 as described herein without the requirement to conduct a prior coordination with terrestrial licensees or applicants. Grant of a waiver is justified here because it would not conflict with the underlying purpose of the rule's coordination requirement. *See PanAmSat Licensee Corp.*, 17 FCC Rcd 10483, 10492 (Sat. Div. 2002) ("the Commission may grant a waiver of its rules in a particular case if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest") (footnotes omitted). Here, the purpose of the rule is to avoid interference to terrestrial licensees, and that purpose is achieved because the antenna to be used is co-located with facilities that have previously been coordinated with terrestrial licensees for the frequencies and power levels proposed.

For the foregoing reasons, XM Radio and Sirius XM respectfully request special temporary authority for a period of up to 30 days commencing ten days after launch of XM-5 to test XM-5 and perform associated TT&C functions. Grant of the requested authority will serve the public interest by facilitating XM Radio's ability to evaluate the performance of the XM-5 space station and will not result in harmful interference to any other regularly authorized operations.

Respectfully submitted,

XM Radio Inc.

/s/ James S. Blitz

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Sirius XM Radio Inc.

/s/ Patrick L. Donnelly

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Dated: September 17, 2010