

E080168 SES-STA-20110919-01112 IE2011004331  
Sirius XM Radio Inc.

Approved by OMB  
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
E080168 Ellenwood GA STA for Tests with XM-5

1. Applicant

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City: New York State: NY  
Country: USA Zipcode: 10020  
Attention: James S. Blitz

30 days "with conditions"




File # SES-STA-20110919-01112  
Call Sign E080168 Grant Date 09/29/2011  
(or other identifier) Term Dates  
From 10/10/2011 To: 11/09/2011  
Approved: Paul E. Hall

Condition of Grant of:  
Sirius XM Radio Inc.  
SES-STA-20110919-01112  
E080168

"Sirius XM Radio Inc. will not exceed the previously-coordinated parameters during the proposed testing and will not cause harmful interference to the operations of any other spacecraft and authorized terrestrial operations. Sirius XM Radio will cease transmissions promptly in the event any harmful interference is caused by such operations."

30 days "with conditions"

 <b>GRANTED</b> International Bureau	File# <u>SES-STA-20110919-01112</u>
	Call Sign <u>E080168</u> Grant Date <u>09/29/2011</u> (or other identifier)
	Term Dates From <u>10/10/2011</u> To <u>11/09/2011</u>
	Approved: <u>Paul E. Hoen</u>

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

In the Matter of Applications by	)	
	)	
XM RADIO LLC and	)	Call Sign S2786
SIRIUS XM RADIO INC.	)	Call Signs E080168 & E990291
	)	
For Special Temporary Authority to	)	
Perform Tests with XM-5	)	

**REQUEST FOR SPECIAL TEMPORARY AUTHORITY**

XM Radio LLC (“XM Radio”) and its parent company 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 commencing on October 10, 2011 to permit testing of the XM-5 space station at 85.15° W.L. using earth stations in Ellenwood, Georgia and Vernon, New Jersey. XM-5 is an in-orbit spare spacecraft launched in October 2010. The Sirius XM Parties seek authority to test the performance of XM-5 under two scenarios in which XM-5 might be needed to provide primary service. First, the parties propose to test how XM-5 would perform in the event the satellite needed to be activated in lieu of Sirius XM’s FM-5 or of its nongeostationary HEO constellation. Second, they plan to assess the transmission performance of XM-5 in the satellite frequency bands used for the legacy XM Radio terrestrial repeaters. Grant of the requested authority will serve the public interest by permitting the Sirius XM Parties to better prepare for and respond to possible future circumstances that would require use of XM-5.

Specifically, the Sirius XM Parties request authority to operate the communications payloads of XM-5 at 85.15° W.L. and authority for the Sirius XM earth stations E080168 and E990291 to communicate with XM-5 for purposes of performing the tests. In

addition to the two Sirius XM earth stations, XM Radio's earth station E040204 will also be used for the planned tests. No STA is required for that facility because it is already authorized to communicate with XM-5 at 85.15° W.L.,<sup>1</sup> and the proposed operations will conform to the earth station's license terms.

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.<sup>2</sup> 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 LLC.<sup>3</sup> The XM-5 license authorizes activation of the satellite's 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."<sup>4</sup>

Immediately following launch, XM Radio performed a series of in-orbit payload tests of XM-5 while the satellite was temporarily located at 80° W.L. to assess the spacecraft's

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<sup>1</sup> See File No. SES-MOD-20101022-01324, grant-stamped Jan. 4, 2011. Transmissions from earth station E040204 to XM-5 will conform to the terms of the E040204 license.

<sup>2</sup> See File No. SAT-LOA-20090217-00025 (Call Sign S2786), grant-stamped Aug. 31, 2009.

<sup>3</sup> See *id.*

<sup>4</sup> *Id.*, Attachment at ¶ 2.

performance characteristics.<sup>5</sup> Further tests were performed earlier this year to allow evaluation of XM-5's ability to provide substitute capacity in the event of an anomaly affecting XM-3.<sup>6</sup>

The Sirius XM Parties now propose to conduct further tests of XM-5's performance. The first set of tests will simulate the conditions that would apply in the event XM-5 was needed to restore capacity because of an anomaly affecting the FM-5 space station or the Sirius XM HEO constellation. For these tests, XM-5 will transmit at 2322.93 MHz. The uplink signals for this set of tests will be at 7062.29 MHz and originate from the Sirius XM earth stations in Ellenwood (Call Sign E080168) and Vernon (Call Sign E990291). The second set of tests will allow evaluation of the transmission performance of XM-5 in the satellite frequency bands used for the legacy XM Radio terrestrial repeaters. XM-5 will transmit at 2337.49 MHz and 2340.02 MHz. The uplink signals for this set of tests will be at 7056.89 MHz and 7059.42 MHz and will originate from the XM Radio earth station in Ellenwood (Call Sign E040204).

The proposed testing will not cause harmful interference to the operations of any other spacecraft. XM Radio operates the only satellites using either S-band or X-band frequencies located within two degrees 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.

The proposed testing will also not result in harmful interference to regularly authorized terrestrial operations. The earth stations that will communicate with XM-5 have been

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<sup>5</sup> See File No. SAT-STA-20100917-00194, grant-stamped Oct. 22, 2010 (authorizing positioning of XM-5 at 80° W.L. and testing at that location).

<sup>6</sup> See File Nos. SAT-STA-20110103-00001, grant-stamped Jan. 13, 2011 & SAT-STA-20110624-00121, grant-stamped July 14, 2011.

coordinated with terrestrial licensees for the frequencies and EIRP levels proposed for use here. The Sirius XM earth stations (Call Signs E080168 and E990291) were not specifically coordinated for operations with a geostationary satellite located at 85.15° W.L. However, these stations were coordinated for communications with the nongeostationary satellite fleet operated by Satellite CD Radio, involving a range of antenna orientations.<sup>7</sup> Sirius XM will not exceed the previously-coordinated parameters during the proposed testing.

Accordingly, no additional coordination should be required to permit temporary use of the E080168 and E990291 antennas during the brief period of the requested STA.<sup>8</sup> 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.

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<sup>7</sup> Furthermore, Call Sign E080168 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.

<sup>8</sup> To the extent necessary, the Sirius XM Parties seek a waiver of Section 25.203(c) to permit temporary use of call signs E080168 and E990291 for 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 antennas to be used have previously been coordinated with terrestrial licensees for the frequencies and power levels proposed and for operations with a nongeostationary satellite fleet.

For the foregoing reasons, XM Radio and Sirius XM respectfully request special temporary authority for a period of up to 30 days commencing on October 10, 2011 to conduct the tests described herein. 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 LLC

/s/ James S. Blitz

James S. Blitz

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Sirius XM Radio Inc.

s/ James S. Blitz

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Dated: September 19, 2011

**2. Contact**

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<b>Country:</b>	USA	<b>Zipcode:</b>	20004 -
<b>Attention:</b>		<b>Relationship:</b>	Legal Counsel

(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?

- If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).  
 Governmental Entity  Noncommercial educational licensee  
 Other (please explain):

4b. Fee Classification CGX – Fixed Satellite Transmitter/Receive Earth Station

5. Type Request

- Use Prior to Grant  Change Station Location  Other

6. Requested Use Prior Date

7. City/Ellenwood

8. Latitude  
(dd mm ss.s h) 33 39 51.0 N



9. State GA	10. Longitude (dd mm ss.s h) 84 16 24.0 W
11. Please supply any need attachments. Attachment 1: STA Request Attachment 2: Attachment 3:	
12. 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.) Sirrius XM Radio Inc. requests special temporary authority to use its Ellenwood, Georgia earth station (call sign E080168) to communicate with the XM-5 satellite (call sign S2786) for testing purposes.	
13. 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. <input checked="" type="radio"/> Yes <input type="radio"/> No	
14. Name of Person Signing James S. Blitz	15. 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).	

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