

E040204 SES-STA-20120723-00685 IB2012001741  
XM Radio LLC

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:  
E040204 30-Day STA Request to permit testing of XM-5 Aug 2012

1. Applicant

<b>Name:</b>	XM Radio LLC	<b>Phone Number:</b>	202-380-4000
<b>DBA Name:</b>		<b>Fax Number:</b>	202-380-4500
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<b>City:</b>	New York	<b>State:</b>	NY
<b>Country:</b>	USA	<b>Zipcode:</b>	10020 -
<b>Attention:</b>	James S. Blitz		

*with conditions*



File # SES-STA-20120723-00685

Call Sign E040204 Grant Date 8/10/2012  
(or other identifier)

Term Dates  
From 8/14/2012 To: 9/13/2012

Approved: Paul E. Blaz

Conditions for:  
Applicant: XM Radio LLC  
File Number: SES-STA-20120723-00685  
Call Sign: E040204

XM Radio LLC, (XM) is granted Special Temporary Authority from 08/14/2012 to 09/13/2012, to operate with Satellite Digital Audio Radio Service (SDARS) space station, XM-5 (Call Sign S2786), at the 85.15° W.L orbital location for the sole purpose of evaluating XM-5's ability to provide replacement capacity in the event of an outage of the primary space stations that it supports and do not include the provision of commercial services under the following conditions.

1. All operations be on a non-protected and a non-harmful interference basis. XM Radio LLC shall cease transmission(s) immediately upon notice of interference and notify the FCC in writing.
2. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future XM Radio LLC applications.
3. 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



*with conditions*  
File # SES - STA - 20120723 - 00685

Call Sign E040204 Grant Date 8/10/2012  
(or other identifier)  
Term Dates  
From 8/14/2012 To: 9/13/2012  
Approved: Rud E. Blaes

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

In the Matter of Applications by )

XM RADIO LLC )

Call Signs S2786 & E040204

For Special Temporary Authority to )

Perform Tests with XM-5 )

**REQUEST FOR SPECIAL TEMPORARY AUTHORITY**

XM Radio LLC (“XM Radio”) respectfully requests space station and earth station special temporary authority (“STA”) for a period of 30 days commencing on August 14, 2012, to permit testing of the XM-5 space station at 85.15° W.L. using an earth station in Ellenwood, Georgia. XM Radio seeks authority to test the performance of XM-5, an in-orbit spare spacecraft launched in October 2010, under a scenario in which XM-5 might be needed to provide primary service. Grant of the requested authority 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.

Specifically, XM Radio requests authority to operate the communications payloads of XM-5 at 85.15° W.L. and authority for XM Radio’s earth station E040204 to communicate with XM-5 for purposes of performing the tests. The tests will allow XM Radio to assess the transmission performance of XM-5 in the satellite frequency bands used for the legacy XM Radio terrestrial repeaters.

The Commission 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.<sup>1</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>2</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>3</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 performance characteristics.<sup>4</sup> Further tests were performed last year to allow evaluation of XM-5's ability to provide substitute capacity in the event of an anomaly affecting XM-3<sup>5</sup> or one affecting the FM-5 space station or the Sirius XM HEO constellation.<sup>6</sup> Tests were also performed to evaluate the transmission performance of XM-5 in the satellite frequency bands used for the legacy XM Radio terrestrial repeaters.<sup>7</sup>

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

<sup>2</sup> See *id.*

<sup>3</sup> *Id.*, Attachment at ¶ 2.

<sup>4</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>5</sup> See File Nos. SAT-STA-20110103-00001, grant-stamped Jan. 13, 2011 & SAT-STA-20110624-00121, grant-stamped July 14, 2011.

<sup>6</sup> See File Nos. SAT-STA-20110919-00184, grant-stamped Oct. 6, 2011, & SAT-STA-20111104-00212, grant-stamped Nov. 9, 2011.

<sup>7</sup> See *id.*

XM Radio now proposes to conduct further tests of XM-5's performance in the bands used for the terrestrial repeater network. The uplink signals for these tests will originate from the XM Radio earth station in Ellenwood (Call Sign E040204), which is authorized to communicate with XM-5. The frequencies, power levels, and other technical parameters of the satellite and earth station operations for the tests will be consistent with those set forth in the XM-5 and E040204 licenses with one exception: for one set of tests, the audio uplink signal from E040204 will be at 7055.89 MHz. That frequency is just below the range of frequencies in which E040204 is authorized to transmit audio content.<sup>8</sup>

The proposed testing will not cause 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 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 should also not result in harmful interference to regularly authorized terrestrial operations. The E040204 earth station has been coordinated with terrestrial licensees. As noted above, the E040204 license does not authorize transmission of an audio signal below 7056.8450 MHz, but transmission of a satellite command signal was coordinated and is authorized for frequencies in the 7042.6-7074.4 MHz range.<sup>9</sup> XM Radio will not exceed the previously-coordinated power density parameters during the proposed testing.

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<sup>8</sup> See File No. SES-MOD-20101022-01324, grant-stamped Jan. 4, 2011, at Section B (authorizing transmissions of audio content and ancillary data in the frequency range 7056.8450-7074.8690 MHz).

<sup>9</sup> See *id.* at Sections B and C.

Accordingly, no additional coordination should be required to permit earth station E040204 to temporarily use the 7055.89 MHz frequency for transmission of audio content during the brief period of the requested STA.<sup>10</sup> In addition, and in any event, XM Radio 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 hereby certifies 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.

For the foregoing reasons, XM Radio respectfully requests special temporary authority for a period of 30 days commencing on August 14, 2012, to conduct the tests described herein. Grant of the requested authority will serve the public interest by facilitating XM Radio's

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<sup>10</sup> To the extent necessary, XM Radio seeks a waiver of Section 25.203(c) to permit temporary use of the 7055.89 MHz frequency for station E040204 to transmit audio content 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 has previously been coordinated with terrestrial licensees for the frequencies and power density levels proposed.

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

Vice President, Regulatory Counsel

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Dated: July 23, 2012

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<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?	
<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 CGX – Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> 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.) <div style="border: 1px solid black; padding: 5px; margin: 10px 0;">XM Radio LLC requests special temporary authority for 30 days commencing August 14, 2012, for its Ellenwood, Georgia earth station (E040204) to communicate with the XM-5 (S2786) spacecraft to test its performance.</div>	
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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