

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

In the Matter of Application by)
)
XM RADIO LLC) Call Sign S2786
)
For Special Temporary Authority to)
Perform Tests with XM-5)

REQUEST FOR SPECIAL TEMPORARY AUTHORITY

XM Radio LLC (“XM Radio”) respectfully requests space station special temporary authority (“STA”) for a period of 60 days commencing on January 11, 2013, to permit testing of the XM-5 space station at 85.15° W.L. XM Radio seeks authority to test the performance of XM-5, an in-orbit spare spacecraft launched in October 2010, under scenarios in which XM-5 might be needed to provide primary service. XM Radio is preparing to file to modify the XM-5 license to remove the restrictions on activating the satellite’s payload to facilitate future testing of XM-5’s ability to perform its backup functions, and seeks STA pending the submission of, and action on, that modification application. Granting the requested STA 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.

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.¹ XM-5 is also equipped with frequencies allowing it to serve as back-up capacity for the SDARS services of XM Radio’s

¹ See Call Sign S2786, File Nos. SAT-LOA-20090217-00025, grant-stamped Aug. 31, 2009, & SAT-MOD-20101216-00264, grant-stamped Mar. 8, 2011.

affiliate, Satellite CD Radio LLC.² 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."³

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.⁴ Additional tests were later performed to allow evaluation of XM-5's ability to provide substitute capacity in the event of an anomaly affecting XM-3⁵ or one affecting the FM-5 space station or the Sirius XM HEO constellation.⁶ 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.⁷

XM Radio now proposes to conduct further tests of XM-5's performance. The uplink signals for these tests will originate from earth stations that are 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

² *See id.*

³ *Id.*, Attachment at ¶ 2.

⁴ *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).

⁵ *See* File Nos. SAT-STA-20110103-00001, grant-stamped Jan. 13, 2011 & SAT-STA-20110624-00121, grant-stamped July 14, 2011.

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

⁷ *See id.*

XM-5 license and the licenses of the earth stations to be used. Thus, additional authority for the planned testing is needed only because the XM-5 license states that the satellite's payload cannot be activated unless there is an outage affecting another SDARS satellite. As indicated above, XM Radio is preparing an application to modify the XM-5 license to remove that limitation such that future such testing could be conducted without an STA, but seeks STA here to allow time-critical planned testing to go forward pending the submission and processing of that modification application.

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. XM Radio and its affiliate will internally coordinate frequency use among the satellites in their fleets.

The proposed testing also will not result in harmful interference to regularly authorized terrestrial operations. The earth stations that will be used for the testing have been coordinated with terrestrial licensees. XM Radio will not exceed the previously-coordinated power density parameters during the proposed testing. 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 60 days commencing on January 11, 2013, to conduct testing as 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

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