

File # SAT-STA-20070523-00074
with attached conditions

Call Sign _____ Grant Date 6/12/07
(or other identifier)

Approved by OMB
3060-0678

Term Dates

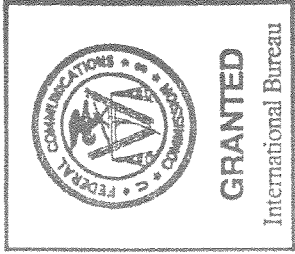
From 06/17/07 To 06/20/07

Date & Time Filed: May 23 2007 2:31:29:683PM
File Number: SAT-STA-20070523-00074
Callsign:

Approved: *[Signature]*

Robert G. Nelson

Chief Scell. for Division



FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY
FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

Sirius Satellite Radio Inc. Request for STA to operate five signal boosters at its National Sales Meeting

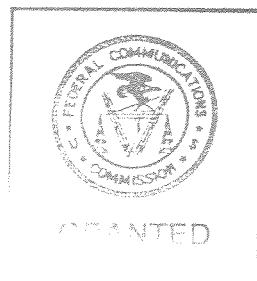
1. Applicant

Name:	Sirius Satellite Radio Inc.	Phone Number:	212-584-5100
DBA Name:		Fax Number:	212-584-5353
Street:	1221 Avenue of the Americas 36th Floor	E-Mail:	
City:	New York	State:	NY
Country:	USA	Zipcode:	10020 -
Attention:	Mr. Patrick L. Donnelly		

**Application of Sirius Satellite Radio Inc. for Special Temporary Authority
IBFS File No. SAT-STA-20070523-00074**

Special temporary authority (STA) IS GRANTED to Sirius Satellite Radio Inc. (Sirius) to operate indoor terrestrial repeaters with an Effective Isotropically Radiated Power (EIRP) of 0.0001 watts from June 17 through June 20, 2007, at its National Sales Meeting in Plainsboro, NJ, with the technical parameters and at the location specified in its application, subject to the following conditions:

1. Any actions taken as a result of this STA are solely at the applicant's own risk. This STA shall not prejudice the outcome of the final rules adopted by the Commission in IB Docket No. 95-91.
2. Operation of all SDARS repeaters authorized pursuant to this STA is on a non-interference basis with respect to all permanently authorized radiocommunication facilities. Sirius shall provide the information and follow the process set forth in paragraphs 14 and 17 in 16 FCC Rcd 16773 (Int'l Bur. 2001) and 16 FCC Rcd 16781 (Int'l Bur. 2001), as modified by 16 FCC Rcd 18481 (Int'l Bur. 2001) and 16 FCC Rcd 18484 (Int'l Bur. 2001).
3. SDARS repeaters are restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to SDARS subscriber's receivers.
4. SDARS repeaters shall comply with Part 1 of the Commission's rules, Subpart I – Procedures Implementing the National Environmental Policy Act of 1969, including the guidelines for human exposure to radio frequency electromagnetic fields as defined in Sections 1.1307(b) and 1.1310 of the Commission's rules.
5. SDARS repeater out-of-band emissions shall be limited to 75+log(EIRP) dB less than the transmitter EIRP.
6. Sirius will operate the repeater according to the technical parameters in its application.
7. Sirius will maintain full ownership and operational control of the repeater.
8. Sirius will immediately shut down any repeater upon a complaint of interference, upon direction from the Commission, or upon finding that a repeater has not been properly installed.



File # SAT-STA-20070523-00074
with attached conditions

Call Sign _____ Grant Date 6/12/07
(or other identifier)

Term Dates
From 06/17/07 To: 06/20/07

Approved: Robert G. Nelson Chief of Division

2. Contact

Name: Mr. Patrick L. Donnelly **Phone Number:** 212-584-5100
Company: Sirius Satellite Radio Inc. **Fax Number:** 212-584-5353
Street: 1221 Avenue of the Americas **E-Mail:**
 36th Floor
City: New York **State:** NY
Country: USA **Zipcode:** 10020 --
Attention: **Relationship:** Same

(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 CXW – Space Station (Non-Geostationary)

5. Type Request

Change Station Location Extend Expiration Date 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.)

Sirius Satellite Radio Inc. requests Special Temporary Authority to operate five signal boosters at its National Sales Meeting in Plainsboro, NJ from June 17-20, 2007.

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
Patrick L. Donnelly

11. Title of Person Signing
Exec. VP, GC and Sec'y

12. Please supply any need attachments.

Attachment 1: Attachment

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).

Attachment

Sirius Satellite Radio Inc. (“Sirius”), pursuant to 47 C.F.R. § 25.120, hereby requests Special Temporary Authority (“STA”) to operate in its licensed frequency band (2320-2332.5 MHz) five (5) signal boosters with an EIRP of 0.0001 watts identical to boosters that have previously been approved for use in retail stores. These signal boosters will be utilized at Sirius’ 2007 National Sales Meeting from June 18-20, 2007 and Sirius requests authorization to operate the boosters for four days, from June 17-20, 2007, to allow for set-up and testing.¹

The boosters will be used by Sirius for demonstrations at its National Sales Meeting and will ensure consistent service during the event at the Lakeside Conference Center in Plainsboro, NJ.² Due to blockage from walls and ceilings, quality reception of SDARS satellite signals inside the conference center may be impeded because receivers may not have line-of-sight views to receive Sirius’ signal. The signal boosters will ensure that demonstrations can be carried out without technical difficulties. Accordingly, grant of the requested STA to use these boosters for a limited period will serve the public interest.

Technical Information. Sirius requests authority to operate five signal boosters on June 17-20, 2007 at the following location:

Lakeside Conference Center
900 Scudders Mill Road
Plainsboro, NJ 08536

Latitude: 40-20-19.20 N
Longitude: 74-36-10.60 W

Exhibit A lists the technical parameters for the signal boosters.³ Specifically, Sirius has included the following information: (1) antenna type; (2) antenna beamwidth; (3) total EIRP; and (4)

¹ Because Sirius is requesting STA for less than 30 days, the Commission can grant this application without placing it on Public Notice. 47 C.F.R. § 25.120(b)(4).

² Sirius intends to operate the signal boosters independently – *i.e.*, Sirius will *not* operate them in conjunction with XM Radio, Inc.

³ See *Sirius Satellite Radio Inc. Request for Special Temporary Authority to Operate In-Store Signal Boosters in the Satellite Digital Audio Radio Service*, File No. SAT-STA-20030411-00075 (grant stamp with conditions issued June 26, 2003) (“2003 In-Store Booster Application”). In the 2003 application, Sirius also provided an interference analysis for the signal boosters that are the subject of this application. See *id.*, Exhibit C. That interference analysis is incorporated by reference herein, as permitted by 47 C.F.R. § 1.10009(c)(2). On June 5, 2003, Sirius further supplemented the application with a sample link budget for the signal boosters. See Letter from Robert D. Briskman to Marlene H. Dortch, Secretary, FCC, Re: Sirius Satellite Radio Inc. Request for STA to Operate In-Store SDARS Signal Boosters, File No. SAT-

approximate maximum height Above Ground Level (“AGL”). Exhibit B provides a RF exposure study that shows that any human radiofrequency exposure that might occur is well below acceptable limits.

Interference Considerations. The boosters at the National Sales Meeting will not cause harmful interference to other radio services. Because Sirius has exclusive use of its licensed frequency band,⁴ there is no potential for in-band interference. Sirius has previously demonstrated that its boosters will not cause adjacent band interference to WCS operations.⁵ In addition, the boosters will only be used for a limited time, further eliminating any opportunity for interference. Therefore, Sirius does not anticipate that these boosters will cause blanketing interference to any WCS receivers. As a result, Sirius has not notified the WCS licensees in the affected MSA prior to filing this request.

Ownership and Control of Booster. Sirius will own the boosters installed at the venue and will retain full operational control of them. Sirius will also be responsible for installation of the boosters.

Public Interest Considerations. Prompt grant of this STA will promote the continued success of satellite radio and serve the public interest. Sirius’s National Sales Meeting features extensive demonstrations of its consumer equipment which are essential to informing sales personnel about Sirius’ current and future consumer offerings. Without the boosters to overcome signal blockage within the venue, however, Sirius cannot undertake real-time demonstrations of its equipment, especially demonstrations of the full mobility of SDARS service. These boosters will provide clear signal reception within the venue for these demonstrations, and will eliminate any need for a hard wire connection.

Sirius understands that its operation of these boosters under STA is on a secondary, non-interference basis. While Sirius does not anticipate any interference, should interference occur, it will cease operation of the boosters until such interference can be eliminated.

Certifications. Sirius certifies that its operation of the signal boosters at the National Sales Meeting will comply, as applicable, with the “Micro-Repeater STA Conditions” that the Commission imposed on Sirius in granting the June 26, 2003 STA to operate 5,000 in-store signal boosters. Specifically, Sirius certifies the following:

(Continued . . .)

STA-20030411-00075 (filed June 5, 2003). The link budget is also incorporated by reference herein.

⁴ 47 C.F.R. § 25.202(a)(6) (stating the 2320-2345 MHz band is allocated exclusively for SDARS).

⁵ 2003 *In-Store Booster Application* at 4 and Exhibit C.

EXHIBIT A

Attached is the following information for the signal boosters Sirius seeks to operate pursuant to this STA.

- (1) antenna type;
- (2) antenna beamwidth;
- (3) total EIRP; and
- (4) approximate height Above Ground Level (AGL)

City	Antenna Type	Antenna Beamwidth	EIRP Total in Watts	Height AGL
Plainsboro, NJ	Antenna Specialists XMSSR923WR	75 degrees	0.0001	~ 8 feet

The transmitted carriers have a center frequency and frequency stability identical to the received SDARS satellite or terrestrial carriers. Frequency accuracy is controlled by the satellite or terrestrial repeater and not by the boosters.

Exhibit B: RF Exposure Analysis

Sirius 2007 NATIONAL SALES MEETING JUNE 18 – 20, 2007 LAKESIDE CONFERENCE CENTER, PLAINSBORO, NJ

This technical addendum is to support the Sirius National Sales Meeting STA request. This event is being held at the Lakeside Conference Center in Plainsboro, NJ.

The set up of five signal boosters for the meeting is illustrated in the figures below:

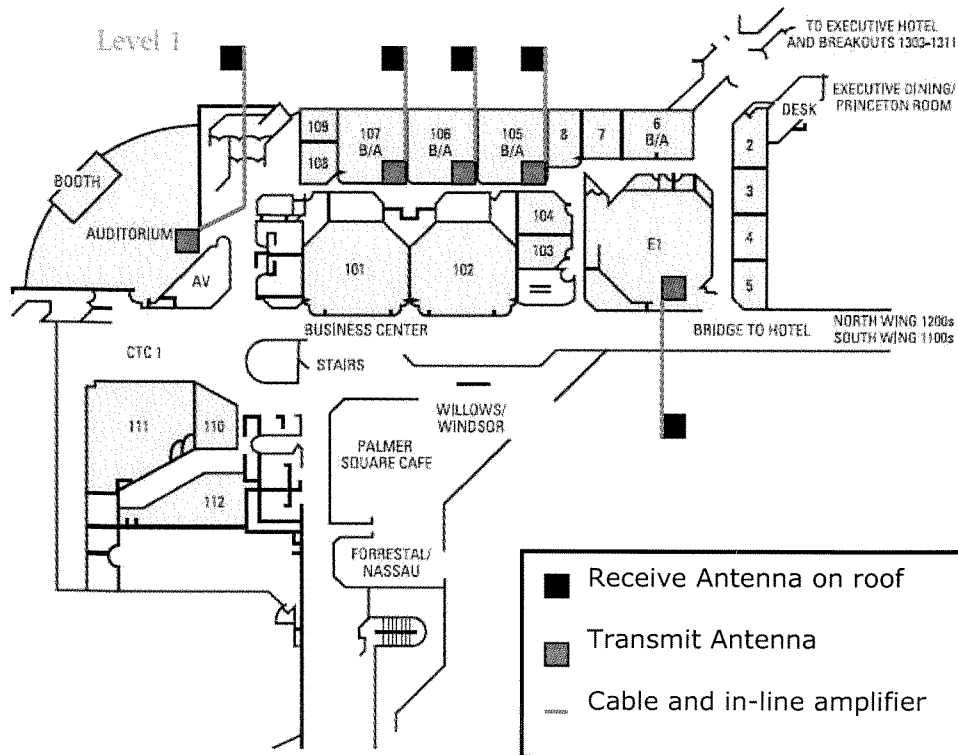


Figure 1. Diagram of event area

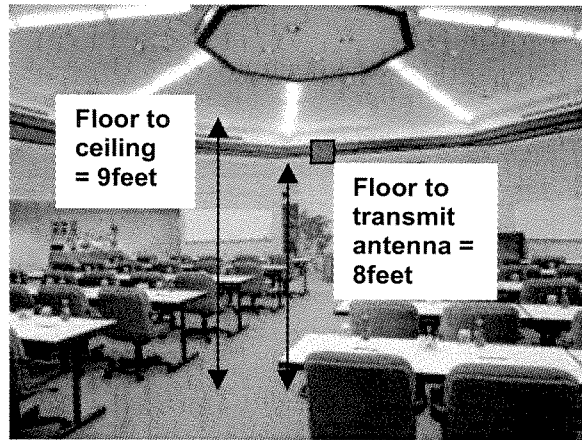


Figure 2. Meeting room

To establish the RF exposure environment for this STA request the following process has been used to confirm that there is no general population exposure over the allowed limit:

1. The transmit antenna is placed 8 feet above the meeting floor as seen in Figure 2. A 0.0001 Watt EIRP signal booster identical to boosters that have previously been approved for retail stores is used. The booster operates at 2320-2332.5MHz which is the carrier frequency allocated to the Sirius repeater network. At this frequency the FCC has established a limit of 1 mW/square centimeter for general population exposure (OET 65).
2. Using the calculation methods described in OET 65 and the EIRP's described in "1" a calculation is made of the power density at various distances from the transmit antenna. The distance of 1 feet was chosen as the minimum distance criteria for exposure by taking the height of the antenna (8 feet) and subtracting a 7 foot allowance for the height of any individuals who may be present on the show floor. This distance represents the closest point that a member of the general population could approach this repeater antenna. Table 2 summarizes the results of the normal calculation (using the formula $\text{Power Density} = \text{EIRP} / (4 * \pi * R^2)$ from OET 65) and also a more conservative formula which takes into account reflection (the formula $\text{PD} = 2.56 * \text{EIRP} / (4 * \pi * R^2)$) also from OET 65. In order to provide a comprehensive view, values are included separately for the regular case and for the reflective case.

Summary

A very conservative approach shows no exposure issue. Worst case assumptions were made as follows:

1. No allowance was made for the significant reduction in power density that will occur due to the attenuation beyond the 3 dB antenna beamwidth.
2. The highest level of exposure, involving the potential for additive reflection was used as the exposure criteria.

Table 1. Signal Booster specifications

Antenna Type	Antenna Beamwidth	Total EIRP in Watts
Antenna Specialists XMSSR923WR	75 degrees	0.0001

Table 2. Calculations for power density

- Power Density = $EIRP / (4\pi R^2)$ (Equation 4 page 19 of OET 65)
- Power Density adjusted for reflection = $2.56 * \text{Power Density}$ (Equation 7, page 21 of OET 65)

As can be seen from this table, even under very conservative transmission assumptions, the general population exposure limits are not exceeded at the worst case location.

Radial Distance from Antenna (Feet)	Power Density mW/square cm	Power Density with 2.56 multiplier (Max reflection)	Worst Case Safety Margin over exposure standard (times)
1	0.000008842	0.00002264	44179
2	0.000002210	0.00000566	176715
3	0.000000982	0.00000252	397608
4	0.000000553	0.00000141	706858
5	0.000000354	0.00000091	1104466
6	0.000000246	0.00000063	1590431
7	0.000000180	0.00000046	2164754
8	0.000000138	0.00000035	2827433
9	0.000000109	0.00000028	3578470
10	0.000000088	0.00000023	4417865
11	0.000000073	0.00000019	5345616
12	0.000000061	0.00000016	6361725
13	0.000000052	0.00000013	7466191
14	0.000000045	0.00000012	8659015
15	0.000000039	0.00000010	9940196
16	0.000000035	0.00000009	11309734
17	0.000000031	0.00000008	12767629
18	0.000000027	0.00000007	14313882

19	0.000000024	0.00000006	15948491
20	0.000000022	0.00000006	17671459
21	0.000000020	0.00000005	19482783
22	0.000000018	0.00000005	21382465
23	0.000000017	0.00000004	23370504
24	0.000000015	0.00000004	25446900
25	0.000000014	0.00000004	27611654
26	0.000000013	0.00000003	29864765
27	0.000000012	0.00000003	32206233
28	0.000000011	0.00000003	34636059
29	0.000000011	0.00000003	37154242
30	0.000000010	0.00000003	39760782