

Approved by OMB  
3060-0678

Date & Time Filed: Dec 19 2007 3:10:50:733PM  
File Number: SAT-STA-20071219-00178  
Callsign:

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

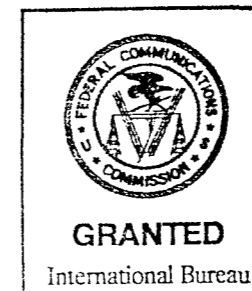
APPLICANT INFORMATION

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

Request for Special Temporary Authority to Operate a Very Low Power Repeater in Vienna, Virginia for 180 Days

1. Applicant

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



w/conditions.

File # SAT-STA-20071219-00178

Call Sign \_\_\_\_\_ Grant Date 2/5/08  
(or other identifier)

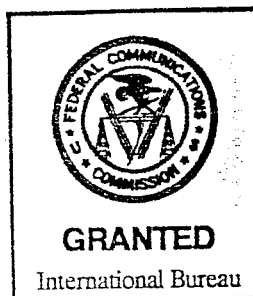
Term Dates  
From 2/6/08 To: + 180 days

Approved: [Signature]  
Policy Branch Chief

**Application of XM Radio Inc.  
for Special Temporary Authority  
IBFS File No. SAT-STA-20071219-00178**

Special temporary authority (STA) IS GRANTED to XM Radio Inc. (XM Radio) to operate one indoor terrestrial repeater in Vienna, VA, with an Effective Isotropically Radiated Power (EIRP) of up to 0.5 watts (average) for 180 days effective February 6, 2008, according to the technical parameters specified in its application, subject to the following conditions:

1. Any actions taken as a result of this STA are solely at XM Radio'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 the terrestrial repeater authorized pursuant to this STA is on a non-interference basis with respect to all permanently authorized radiocommunication facilities. XM Radio 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. The terrestrial repeater is restricted to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to SDARS receivers;
4. The terrestrial repeater 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. The out-of-band emissions of the terrestrial repeater shall be limited to 75+log(EIRP) dB less than the transmitter EIRP;
6. XM Radio will maintain full ownership and operational control of the terrestrial repeater;
7. XM Radio will immediately shut down the terrestrial repeater upon a complaint of interference, upon direction from the Commission, or upon finding that the repeaters have not been properly installed;
8. This authorization is not one relating to an "activity of a continuing nature" for purposes of Section 1.62 of the Commission's rules and Section 558(c) of the Administrative Procedure Act. Continuation of operations beyond the term of this authorization will require prior affirmative authorization by the FCC.
9. XM Radio is granted 30 days from the date of the release of this authorization to decline the authorization as conditioned. Failure to respond within that period will constitute formal acceptance of the authorization as conditioned.



w/conditions

File # SAT-STA-20071219-00178

Call Sign \_\_\_\_\_ Grant Date 2/5/08  
(or other identifier)

Term Dates  
From 2/6/08 To: +180 days

Approved: [Signature]  
Policy Branch Chief

2. Contact	
<b>Name:</b> James S. Blitz	<b>Phone Number:</b> 202-380-4000
<b>Company:</b> XM Satellite Radio Inc.	<b>Fax Number:</b> 202-380-4981
<b>Street:</b> 1500 Eckington Place NE	<b>E-Mail:</b> james.blitz@xmradio.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20002 -
<b>Attention:</b>	<b>Relationship:</b> 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?	
<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 (STA) to operate one very low power terrestrial repeater (less than 2kW EIRP) at a new XM office site in Vienna, Virginia for 180 days pursuant to the technical parameters listed in Exhibit A.

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: STA Request

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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**THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.**

## **XM SATELLITE RADIO**

James S. Blitz  
Vice President, Regulatory Counsel  
XM SATELLITE RADIO  
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Washington, DC 20002  
[james.blitz@xmradio.com](mailto:james.blitz@xmradio.com)  
P: 202-380-1383  
F: 202-380-4981

December 19, 2007

**Via IBFS**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12th Street, S.W.  
Washington, D.C. 20554

**Re: XM Radio Inc.  
Request for 180-Day Special Temporary Authority to Operate  
A Very Low Power Repeater in Vienna, Virginia**

Dear Ms. Dortch:

Pursuant to Section 25.120(b)(2) of the Commission's rules, 47 C.F.R. § 25.120(b)(2), XM Radio Inc. ("XM"), a Satellite Digital Audio Radio Service ("SDARS") licensee, hereby requests 180-Day Special Temporary Authority ("STA") to operate in its licensed frequency band (2332.5-2345 MHz) a very low-power repeater (not exceeding 0.5 watts average EIRP) in Vienna, Virginia.<sup>1</sup>

XM seeks authority to operate this new very low power repeater at an office building located at 2650 Park Tower Drive, Vienna, VA (the "2650 Building"), to which XM will locate some of its employees. Many employees that XM intends to locate at the 2650 Building are part of XM's Listener Care team, who will be directly involved in the resolution of subscriber complaints. As such, these individuals need to receive a quality XM signal at their desks in order to perform their jobs of assisting XM subscribers.<sup>2</sup>

The 2650 Building is a large one and XM will occupy two entire floors and part of a third floor of the building. Due to the building's size and physical limitations, as well as limitations imposed by XM's sublease, it would be impractical for XM to provide adequate service to these employees using either hard-wire connections or through other existing STA authorizations that XM holds. Rather, a very low power repeater is the only practical solution for providing service

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<sup>1</sup> On December 14, 2007, XM filed a request to operate the same repeater under a 30-Day Special Temporary Authority pursuant to Section 25.120(b)(4) of the Commission's rules. See File No. SAT-STA-20071214-00175.

<sup>2</sup> Given the technical parameters of this proposed facility, it will not be capable of serving members of the general public or XM subscribers located outside of the 2650 Building.

to XM employees at the 2650 Building. Under this configuration, rather than receiving signal from a terrestrial repeater, a mini repeater (containing the receiver, transcoder and upconverter of a terrestrial repeater) located in the 2650 Building would receive XM's signal directly from an XM satellite. The mini-repeater, which would not radiate at all, would transmit the signal directly to a very low power repeater via coaxial cable. The repeater would then amplify the signal via an external amplifier and retransmit the signal via one or more omnidirectional antennas, at a power level not exceeding 0.5 watts average EIRP.

The Commission has recognized that SDARS operators require terrestrial repeaters to provide high-quality service nationwide.<sup>3</sup> Consistent with this policy, in September 2001, the Bureau granted XM an STA to operate a nationwide network of terrestrial repeaters.<sup>4</sup> In the years since, the Bureau has granted XM additional STAs to operate its terrestrial repeaters, pending issuance of final rules governing the deployment and use of repeaters.<sup>5</sup>

*Public Interest Considerations.* Grant of the STA will serve the public interest by providing quality service to XM employees at the 2650 Building, who in turn will be able to provide better customer service assistance to XM subscribers. Moreover, the STA will promote the continued success of satellite radio because the very low power repeater will eliminate the need for hard-wire connections which in this case could cause significant physical disruption to the leased office space. Without this very low power repeater, XM could not provide the signal quality that its listener care employees require.

*Technical Information for Very Low Power Repeater.* The following technical information pertaining to the repeater is provided in Exhibit A: (1) antenna type; (2) antenna orientation; (3)

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<sup>3</sup> See *Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band, Report and Order, Memorandum Opinion and Order, and Further Notice of Proposed Rulemaking*, 12 FCC Rcd 5754, 5770 ¶ 37 (1997).

<sup>4</sup> See *XM Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complimentary Terrestrial Repeaters, Order and Authorization*, 16 FCC Rcd. 16781 ¶ 18 (2001) ("XM STA Order").

<sup>5</sup> See, e.g., *XM Radio, Inc.; Request for Special Temporary Authority to Operate Additional Satellite Digital Audio Radio Service Terrestrial Repeaters, Order and Authorization*, 19 FCC Rcd. 18140 (2004) (granting XM an STA in File No. SAT-STA-20031112-00371, effective Sept. 15, 2004); *Public Notice*, 2002 FCC Lexis 5670 (rel. Oct. 30, 2002) (granting XM an STA in File No. SAT-STA-20020815-00153, effective Sept. 30, 2002); *Public Notice*, 2003 FCC Lexis 4803 (rel. Aug. 29, 2002) (granting XM an STA in File No. SAT-STA-20030409-00076, effective June 26, 2003). XM has filed applications to renew its STAs, and those renewal applications are pending before the Commission.

average EIRP; (4) height above ground level ("AGL"); and (5) antenna downtilt. The specification sheet for the antenna is attached as Exhibit B.

*Interference Considerations.* The very low power repeater will not cause harmful interference to other radio services. Because XM has exclusive use of its licensed band, there is no potential for in-band interference. Moreover, this repeater will operate at a power level not exceeding 0.5 watts average EIRP, which is well below the 2000 watts EIRP threshold identified by the WCS Coalition as a potential interference concern.<sup>6</sup> Accordingly, XM does not anticipate that operation of the new repeater will cause any interference for WCS operators or any other entity. To the extent XM's original 2001 STA requires it to coordinate with affected Wireless Communications Services ("WCS") licensees prior to operating any repeater,<sup>7</sup> XM is sending a copy of this STA application to counsel for Horizon Wi-Com, LLC ("Horizon") in satisfaction of this coordination requirement.<sup>8</sup>

*Ownership and Control of Repeaters.* XM will own the very low power repeater and it will be responsible for its installation and operation.

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<sup>6</sup> *XM STA Order* ¶ 12 ("The comments from WCS licensees express concern about blanketing interference from DARS repeaters that operate with an Equivalent Isotropically Radiated Power (EIRP) above 2 kW."). The WCS Coalition has said that it will defer from objecting to STA requests that propose operations of no more than 2,000 watts EIRP, even if they do not specify peak or average EIRP, provided that grant of the STA (i) is conditioned on operation on a non-interference basis; and (ii) is subject to the condition that the issue of peak versus average EIRP will be addressed in the pending DARS rulemaking (IB Docket No. 95-91). See Letter from Paul J. Sinderbrand, Counsel to the WCS Coalition, to Ms. Helen Domenici, FCC, File No. SAT-STA-20061207-00145 (filed March 19, 2007). XM agrees to these conditions.

<sup>7</sup> See *XM STA Order* ¶ 14.

<sup>8</sup> Despite the Bureau's statement in the *XM STA Order* (at ¶ 14) that it expects "WCS licensees to provide a schedule or as much advance notice as possible of when their stations are to be placed in operation," XM has not received information directly from any WCS licensee regarding plans for WCS deployment in these markets. However, XM's own review of Commission files show that Horizon has certified that it operates a WCS station in the Washington, D.C. market, Call Sign KNLB315, File No. 0003045282 (filed May 29, 2007). It is not clear from Horizon's certification whether its base station is receiving transmissions from CPE or whether it is engaged in transmit-only operations. If only the latter, potential interference to the Horizon base station is not an issue. In any event, XM has conducted an interference analysis and determined that this repeater site will not create interference to Horizon's operating WCS site.



Ms. Marlene H. Dortch  
December 19, 2007  
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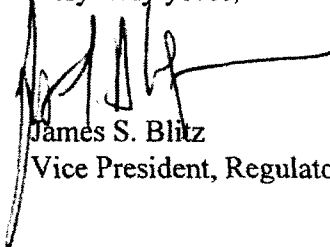
*Certifications.* XM certifies that it will operate the very low power repeater subject to the conditions and certifications set forth in the *XM STA Order* granting XM's September 2001 request for STA to operate terrestrial repeaters. Granting this request will not alter XM's obligation to protect authorized radiocommunications facilities from interference, and it will not prejudice the outcome of the Commission's ongoing rulemaking pertaining to the deployment and operation of terrestrial repeaters.

XM 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. § 853(a).

XM is submitting payment to the Federal Communications Commission in the amount of Seven Hundred Ninety Dollars (\$790.00) -- the filing fee applicable to requests for STAs for geostationary ("GSO") satellites.<sup>9</sup>

Please direct any questions regarding this matter to the undersigned.

Very truly yours,



James S. Blitz  
Vice President, Regulatory Counsel

cc: Stephen Duall, FCC  
Alyssa Roberts, FCC  
Shabnam Javid, FCC  
Thomas Gutierrez, Lucas Nace Gutierrez & Sachs (Counsel for Horizon Wi-Com)

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<sup>9</sup> See International and Satellite Services Fee Filing Guide (October 2006).

**Exhibit A**

**Technical parameters for repeater**

<b>Antenna Type</b>	<b>Antenna Beamwidth</b>	<b>EIRP Total in Watts</b>	<b>Height AGL</b>
Omni Antenna (YDI Model #2408) and External Amplifier (CPL Model #01027997-00)	300 degrees	0.5	< 50 feet

**Exhibit B**

**Antenna Specification Sheet for repeater**



**Model A2408**  
 • 8 dBi gain  
 • Wide beamwidth (25°)  
 • Low profile



**Model A2412-O**  
 • 12 dBi gain  
 • No downtilt  
 • 5° beamwidth

**Model A2412-D**  
 • 12 dBi gain  
 • 3° downtilt  
 • 5° beamwidth



**Mounting Details  
 for Model A2412**

Model	A2408 (omni)	A2412-O (omni)	A2412-D (omni)
TBW Part Number	203-900009-001	203-900004-001	203-900003-001
<b>Electrical</b>			
Frequency Range:	2.400 to 2.500 GHz	2.400 to 2.485 GHz	2.400 to 2.485 GHz
Forward Gain:	8 dBi	12 dBi	12 dBi
VSWR:	< 2:1	< 2:1	< 2:1
Polarization:	Vertical	Vertical	Vertical
Beamwidth:	25 degrees	5 degrees	5 degrees with 3 degrees downtilt
<b>Mechanical</b>			
Termination:	N-type Female	N-type Female	N-type Female
Mounting:	U-Bolt bracket mount for 1-2.5 in O.D.	U-Bolt bracket mount for 1-2.5 in O.D.	U-Bolt bracket mount for 1-2.5 in O.D.
Dimensions (Diameter x Length):	1 in / 16 in	1 in / 5 ft, 5 in	1 in / 5 ft, 5 in
Weight:	2 lbs	3 lbs 8 oz	3 lbs 8 oz
Flat Panel Equivalent Area:	0.11 sq ft	0.45 sq ft	0.45 sq ft
Wind Survival:	125 mph	125 mph	125 mph
Radome:	Heavy-duty white UV inhibited fiberglass radome seal with internal copper elements		

*Specifications subject to change without notice*

*Apr 2005-01*

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SPECIFICATIONS	Cage Code	Sheet 1 of 6	Class	Size	DWG. NO.	Rev
	57982			A	01027997	6

APPLICATION		REVISIONS				
NEXT ASSEMBLY	USED ON	REV	DESCRIPTION	EO	DATE	APPR.
	S-band Gen IV	6	Engr Release	A01104	7/29/00	EAO

01027997

S-band Solid State Intermediate Power Amplifier

UNLESS OTHERWISE DIMENSIONS ARE IN INCHES		CONTRACT NUMBER		MATERIAL:	
		Dr.		SPEC. NO.	
DEC: 1PL ± .02		Chk		FINISH:	
3PL ± .005	FRAC ± 1/64	Appd		Design activity Approval	
ANG ± 1 deg	SUR	Appd		Customer approval	



SPECIFICATIONS	Cage Code	Sheet 2 of 6	Class	Size	DWG. NO.	Rev
	57982			A	01027997	6

**1.0 GENERAL DESCRIPTION**

This specification defines the performance requirements for a solid state integrated attenuator/amplifier used as a driver (intermediate power amplifier) in a klystron high power amplifier system. Unless stated otherwise, all specifications apply over the whole frequency passband.

The high power amplifier system is designed for use as the transmitter in SDARS systems (satellite digital audio radio system).

**2.0 RF PERFORMANCE**

- 2.1 Frequency Passband 2.322 to 2.343GHz
- 2.2 Power Output at -1 dB Compr. +32dBm min.
- 2.3 Third Order Intercept +42dBm
- 2.4 Noise Figure 7dB max.
- 2.5 Gain (at Rated Output) 24dB (min.)
- 2.6 Gain (Small Signal) 24dB (min), 28dB (max.)
- 2.7 Gain Variation vs Freq. 0.1dB max
- 2.8 Gain Slope vs Freq. 0.05dB/MHz max. over any 1 MHz
- 2.9 VSWR, Output 1.5:1 max.
- 2.10 VSWR, Input 1.5:1 max.
- 2.11 VSWR, Load 1.3:1 max. to meet specifications
- 2.12 AM/PM Conversion 0.5°/dB max at +25dBm
- 2.13 Spurious (relative to +25dBm in-band) -80dBc max, 2.2-2.4GHz  
-60dBc max, 2.0-2.2GHz, 2.4-18GHz
- 2.14 Harmonics (2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>) -40 dBc max when operated at +25dBm in-band
- 2.15 Group Delay (ripple across the band) 0.5 ns pk to pk max.
- 2.16 Gain Stability vs Time \* 0.1 dB max./24 hours at 20°C ± 2°C after 20 min. warmup.

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SPECIFICATIONS	Cage Code	Sheet 3 of 6	Class	Size	DWG. NO.	Rev
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2.17 Gain Stability vs Temperature

Stay within 1.0 dB (total) over the operating temperature range and within 0.5 dB (total) between +25 to +50°C. Applies after 20 minutes warmup.

2.18 Stability wrt Load VSWR

The amplifier output shall be unconditionally stable up to 2:1 VSWR output loading

2.19 RF Off time wrt DC Off time

User will switch "OFF" the +15 VDC power, via solid state switch to ground, to inhibit RF output of the amplifier. RF output power level must decrease by at least 30 dB within 2.0 microseconds after removal of +15 VDC power. If this requirement cannot be met, vendor must quote cost of built-in PIN switch. Switch to be controlled by +15V signal. Separate from the switched +15VDC, ±15VDC @100mA each is available to bias the PIN switch.

3.0 DC POWER REQUIREMENTS

3.1 Power Input, for RF

+15 VDC at 1.4A max.

NOTE: 15 VDC supplied to SSIPA may contain transients and noise. Vendor must furnish built-in protection and/or regulators to insure isolation and regulation.

4.0 MECHANICAL

4.1 Size

See Fig. 1

4.2 RF Connectors

Type SMA Female

4.3 DC Connector

Molex 03-06-1023 2-socket receptacle on twisted pair 4" flying lead. This cheap connector is readily available from Digi-Key and other distributors.

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SPECIFICATIONS	Cage Code	Sheet 4 of 6	Class	Size	DWG. NO.	Rev
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**5.0 ENVIRONMENTAL**

The amplifier shall meet specified performance under any combination of environmental conditions, listed below.

<u>CONDITION</u>	<u>OPERATIONAL</u>	<u>NON-OPERATIONAL</u>
5.1 Temperature, ambient	-10°C to +60°C	-20°C to +65°C
5.2 Altitude	10,000 feet	40,000 feet
5.3 Relative Humidity	95% non-condensing	95% non-condensing
5.4 Shock, Vibration	Benign	Transportation

**6.0 Test/Information Requirements**

Vendor will supply max baseplate temperature allowed. Vendor to supply a dimensioned drawing that also shows where on the baseplate waste power is being dissipated and where the max baseplate temperature is measured. CPI will use this information to design a suitable heatsink.

Vendor will supply a first article test report with supporting data for prototype quantity units to verify compliance to the following sections. These tests are intended to provide CPI with a level of confidence in the performance and reliability of the product.

-All specifications in Section 2.0 at +30°C. 2.7 and 2.8 should be tested at the power specified in 2.2, and at +25dBm as a minimum.

-All specifications in Section 3.0 including a description of internal protection for transients and noise.

-Section 5.1 – for operation, the metrics of performance will be Sections 2.1, 2.2, 2.5, and 2.7. Once the unit has reached thermal equilibrium at the temperature extremes, testing must last 12 hours. Maximum baseplate temperature during the test should be reported.

-Section 5.4 – either test the design, or if there is field history, provide MTBF numbers in lieu of tests.

If environmental stress screening or highly accelerated life testing has been performed on this design to prove reliability, those test results should be submitted.

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SPECIFICATIONS	Cage Code	Sheet 5 of 6	Class	Size	DWG. NO.	Rev
	57982			A	01027997	6

For the production order, vendor will supply a test report for each unit with the following parameters (actual data needs to be provided, a Pass/Fail checklist with no supporting data is not acceptable):

- 2.1 Frequency Passband
- 2.2 Power Output at -1 dB Compr.
- 2.3 Third Order Intercept
- 2.4 Noise Figure
- 2.5 Gain (at Rated Output)
- 2.6 Gain (Small Signal)
- 2.7 Gain Variation vs Freq.
- 2.8 Gain Slope vs Freq.
- 2.9 VSWR, Output
- 2.10 VSWR, Input
- 2.12 AM/PM Conversion
- 2.13 Spurious
- 2.14 Harmonics
- 2.15 Group Delay (ripple across the band)
- 3.1 DC Current Draw @15VDC

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psinderbrand@wbklaw.com

FILED/ACCEPTED

DEC 20 2007

Federal Communications Commission  
Office of the Secretary

December 20, 2007

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
Washington, DC 20554

Re: *Requests Of XM Radio Inc. For 30 Day and 180 Day Special Temporary Authorizations Regarding Digital Audio Radio Service Terrestrial Repeater* – File Nos. SAT-STA-20071214-00175 and SAT-STA-20071219-00178

Dear Ms. Dortch:

I am writing on behalf of the WCS Coalition in regard to the above-referenced requests by XM Radio Inc. ("XM") for 30 day and 180 day special temporary authorization ("STA") to operate what appears to be a new type of Digital Audio Radio Service ("DARS") terrestrial repeater system in Vienna, VA.

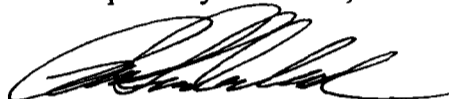
Because of ambiguities in XM's applications, it is unclear exactly how the indoor rebroadcast system proposed by XM will operate. The WCS Coalition fears that XM may intend to receive signals directly off air, amplify those signals with a broadband amplifier and then retransmit them without benefit of the filtering necessary to assure that Wireless Communications Service ("WCS") transmissions in all or part of the 2305-2320 MHz and 2345-2360 MHz bands are not also received and retransmitted by XM. If these fears prove accurate, XM's activities will present a substantial threat of interference to WCS operations, since the signals in the WCS band being retransmitted by XM will inevitably interfere with the reception of signals being transmitted by the adversely-impacted WCS licensee. Moreover, if XM contemplates using a broadband amplifier, there is no indication in the application that XM has incorporated some form of anti feedback mechanism to assure that it will not become a broadband noise source if the coupling between the receiver and retransmit antennas is not sufficient to avoid oscillation. And, there is no indication that the indoor device proposed by XM will filter out-of-band emissions to a level that produces no harm to nearby WCS subscribers.

Marlene H. Dortch  
December 20, 2007  
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The WCS Coalition appreciates that that any STA granted to XM will require XM to cure interference it causes to future WCS operations. However, the WCS Coalition is also painfully aware of XM's continued insistence in IB Docket No. 95-91 that all repeaters authorized by STA be grandfathered from compliance with permanent DARS repeater rules, while at the same time it seeks to be relieved of its absolute obligation under the STA to cure any interference.<sup>1</sup> This position by XM forces the WCS Coalition to object to a grant of the instant applications until XM provides further evidence that WCS signals will not be retransmitted by the proposed new repeater system. The WCS Coalition is hopeful that in response to the *Second Further Notice of Proposed Rulemaking* released earlier this week in IB Docket No. 95-91 the Commission will adopt permanent DARS terrestrial repeater rules that reasonably protect WCS operations from interference caused by DARS repeaters constructed pursuant to STAs. However, because it will be several months until the Commission can act, the possibility remains that absent this objection, WCS licensees may find themselves without recourse as to XM's proposed new repeater system.

Should you have any questions regarding this submission, please contact the undersigned.

Respectfully submitted,



Paul J. Sinderbrand

Counsel to the WCS Coalition

cc: Stephen Duall (via email)  
Alyssa Roberts (via email)  
Shabnam Javid (via email)  
James S. Blitz (via email)

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<sup>1</sup> See, e.g. Letter from James S. Blitz, XM Vice President, Regulatory Counsel, *et al.* to Marlene H. Dortch, FCC Secretary, IB Docket No. 95-91, at 9-10 (filed Oct. 19, 2007).

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January 8, 2008

FILED/ACCEPTED

JAN - 8 2008

Federal Communications Commission  
Office of the Secretary

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 Twelfth Street, SW  
Washington, DC 20554

Re: *Requests Of XM Radio Inc. For 60 Day and 180 Day Special Temporary Authorizations Regarding Digital Audio Radio Service Terrestrial Repeater* – File Nos. SAT-STA-20071214-00175 and SAT-STA-20071219-00178

Dear Ms. Dortch:

On December 20, 2007, I wrote on behalf of the WCS Coalition expressing concerns regarding the above-referenced requests by XM Radio Inc. (“XM”) for 60 day and 180 day special temporary authorization (“STA”) to operate a new type of low-power Digital Audio Radio Service (“DARS”) terrestrial repeater in Vienna, VA. Last Friday, XM amended these applications to provide both additional information and new certifications regarding the manner in which this new repeater will operate. In light of this new information and the new certifications made by XM, the WCS Coalition hereby withdraws its opposition to XM’s request for STAs that will allow the installation of this single low-power repeater in Vienna, VA.

Attachment 2 to XM’s amendments suggests that XM ultimately intends for repeaters of this sort to proliferate. This is neither the time nor the place to debate the rules and policies that should govern wider deployment of similar devices. It must be noted, however, that the WCS Coalition’s willingness to withdraw its opposition to the above-referenced applications is expressly premised on XM’s installation of just a single device at a single location that is known to the WCS Coalition in advance and that is under XM’s direct control. The WCS Coalition reserves the right to object should XM propose to deploy additional devices of this type.

WILKINSON ) BARKER ) KNAUER ) LLP

Marlene H. Dortch  
January 8, 2008  
Page 2

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