NARRATIVE STATEMENT

I. Introduction And Background

Pursuant to Section 5.51 of the Commission's rules, 47 C.F.R. § 5.51 (2006), Sirius Satellite Radio Inc. ("Sirius") requests an experimental license to carry out experiments with new models of satellite digital audio radio services ("SDARS") terrestrial repeater equipment. The experiments will involve the use of SDARS repeater equipment operating in Sirius' licensed frequency band (2320-2332.5 MHz). The following information is provided in support of this request.

II. Purpose of Experimentation

Sirius is the sole licensee in the 2320.0-2332.5 MHz band. Sirius provides SDARS service to millions of subscribers, delivering high-quality programming nationwide. Sirius provides its service primarily through three non-geostationary satellites. In addition, and as contemplated by the international and domestic frequency allocations,[1] Sirius also is authorized to operate terrestrial repeaters. At present, Sirius has deployed a network of approximately 139 terrestrial repeaters. Currently, those repeaters are operated under Special Temporary Authority issued by the International Bureau. The construction, placement and operation of SDARS repeaters is a *sine-qua-non* for Sirius to supply the high-quality services demanded by customers—and is an expensive undertaking.

Recently, Sirius has been updating its repeater/antenna design and technology. Given the costs of site procurement and installation, Sirius needs the capability to test repeaters before deploying them in the field. Such testing includes performance checks and quality control, but extends to: engineering and assessing sectorized sites; gaining real-world experience in rotating and/or shifting transmitters to optimize the timing "chain" among multiple transmitters in a single market; all while minimizing the potential for self-interference and suppressing out-of-band emissions as required.

Sirius proposes to conduct experimental operations of new models of its repeaters in a single market: Las Vegas, NV. Sirius intends to operate, measure and analyze these experimental repeaters in a variety of settings – including urban, suburban, and rural, and so seeks authority to operate on an experimental basis in a geographic area with a radius of 80 kilometers centered around the following coordinates in Las Vegas, NV: 36-08-10 N, 115-09-04.80 W. Actual sites will be chosen to accommodate a wide variety of conditions. A maximum of ten repeaters will be installed in order to evaluate the feasibility of using relatively low powered repeaters and to evaluate the timing and other

[1] *See* 47 C.F.R. §2.106 n. 5.396 note US327.

adjustments needed to minimize interference among the repeaters. All of the repeaters will be installed and operated in compliance with the Commission's requirements pertaining to exposure to RF radiation. Sirius does not expect to select sites that will require it to seek a determination of non-hazard to air navigation from FAA, but should such a determination be required, it will be sought before the repeater is installed. The repeaters would be operated using the technical parameters outlined below and in the Form 442 application.

Sirius submits that the public interest, necessity and convenience are served by grant of this experimental license. Allowing Sirius to test its repeater technology beyond the factory but before deployment in the field will allow Sirius to more efficiently ensure that those repeaters will operate correctly once installed. Sirius will be able to confirm that its repeaters will not cause harmful interference and that they will provide the coverage necessary to ensure continuous service to customers that have come to expect a high level of reliability from Sirius' service. Sirius notes that XM, a parallel SDARS licensee, has authority to conduct similar experiments, albeit on a nationwide basis.[2]

III. Technical Specifications

Application Type/Classification:	XD (Experimental Demonstration)
Frequency Band:	2320-2332.5 MHz
Modulation:	COFDM (Coded Orthogonal Frequency Division Multiplexing)
Bandwidth/Emission Designator:	4M01G7E
Antenna Data/Repeater Units:	Alcatel-Lucent Sirius Repeater 200 Watts
Locations:	Various locations within an 80 kilometer radius of: Latitude: 36-08-10.28 N Longitude: 115-09-04.80 W NAD83
Antenna Heights:	Various Heights Up to 100 Meters AGL
Antenna Types:	IL-TEK Antennae Inc. Model TA-2350-DAB R65-18-XXDVL, FR90-17-XXXVL, HMD8V360-R05-H
Antenna Beamwidths:	Omni-Directional, 90 degrees, 65 degrees
TPO:	200 Watts
EIRP/ERP:	$\leq$ 2000 Watts EIRP/$\leq$1220 Watts ERP

[2] *See* Experimental License File No. 0094-EX-RR-2005.

IV. Interference Safeguards

Sirius recognizes that the operation of these repeaters must not cause harmful interference to authorized facilities. Sirius will be testing for self-interference, but does not anticipate any in-band interference to other operators, since Sirius is the only entity authorized to operate in this spectrum. Should interference occur, however, Sirius will resolve the interference, including, if necessary, discontinuing operation.

V. Conclusion

By proving performance, then speeding deployment of state-of-the-art technology, grant of this experimental license will allow Sirius to improve service to listeners. As such, speedy authorization would serve the public interest, convenience, and necessity.

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