

Spirit Broadcasting, LLC
Request for Part 5 Experimental License
ELS File No. 0246-EX-CN-2016

NARRATIVE STATEMENT

Pursuant to Sections 5.203 of the Commission's rules, 47 C.F.R. § 5.203 (2016), Spirit Broadcasting, LLC ("Spirit") hereby respectfully requests a broadcast experimental license from November 28, 2016 to November 28, 2017, to operate its AM broadcast station at 1330 kHz for the purpose of testing prototype equipment. Spirit will be utilizing prototype equipment developed by Texzon Technologies LLC ("Texzon") that will transmit terrestrial electromagnetic surface waves (Zenneck surface waves, not Norton ground waves) with the ultimate intent of more efficient broadcast signaling without the current issues associated with ionosphere skip interference. The equipment to be used is experimental and proprietary and is entirely of a prototype nature.

A. Purpose of Operation and Need for STA:

Spirit intends to do the following with the broadcast experimental license:

- Verify the effectiveness of Surface Wave Technology and its benefits for AM broadcasters.
- Establish typical operating parameters that will provide outstanding coverage while maintaining protections to co-channel neighbors.
- Verify the existence of the Zenneck fields vs. radiated fields, and subsequently, verify the non-existence (or minimal residual existence) of any sky-wave.

B. Location of Proposed Operation:

Spirit will conduct its experimental operation at its licensed location in Willoughby, OH. The address of the location is:

36913 Stevens Boulevard
Willoughby, OH 44094

The reference coordinates (in Datum: NAD83) of the location is:

41° 38' 57"N, 81° 25' 25"W

C. Technical Specifications:

1. Frequencies Desired

Spirit will be conducting the experiment on its licensed AM frequency of 1330 kHz. Specifically, the operating frequency range will be 1325 to 1335 kHz, with 10 kilohertz of bandwidth.

2. Effective Radiated Power

Spirit anticipates that the experimental operations will largely be non-radiating. To conduct the experiment, the RF power necessary to maintain the voltage to produce local fields required to launch a high velocity propagating surface wave will be utilized. The testing will not exceed 5 kW of RF input power to the surface wave launching probe at 1330 kHz. The intent is to produce a surface wave without producing any Norton ground wave radiation. The maximum effective radiated power that Spirit expects from the experimental testing is 12.5 Watts.

3. Modulation and Emissions

Spirit proposes to utilize two different transmitters, one uses high level amplitude modulation and the other employs pulse width modulation with a 10 kHz of bandwidth. The emission designators will be 10K0A3E and 10K0L3E.

4. Antenna Information

While the testing should be non-radiating, Spirit will use two separate surface wave launching probes to initiate the Zenneck surface waves. One probe will be 41 feet above ground level and the second probe will be 26 feet above ground level. No probes will be mounted in a fashion that will require approval under FAA and FCC rules and regulations.

5. Equipment To Be Used

Spirit expects to conduct its demonstration with two test probes at the above referenced fixed location. These probes are prototype equipment developed by Texzon. Spirit will limit the power, area of operation, and transmitting times to the minimum necessary to gather the needed scientific measurements of this new technology.

D. Protection Against Causing Interference:

Spirit is requesting authority to operate in the 1330 kHz spectrum that it is authorized under call sign WINT-AM. Spirit understands that it must accept any interference from any users of this band during the experimental testing and that all experimental operations by Spirit will be on a secondary basis. Spirit has established a point of contact identified below with “kill switch” authority should any interference occur to primary licensed services. Should interference occur, Spirit will take immediate steps to resolve the interference, including, if necessary, arranging for the discontinuance of operation.

E. Restrictions on Operation:

Spirit is not seeking authority to perform a market study under the requested experimental license. Moreover, no fees will be charged to entities using the equipment during this test. Entities will be advised in accordance with Section 2.803 of the Commission's rules, 47 C.F.R. §2.803, that any unapproved devices which have not been authorized as required by the FCC are not being offered for sale or lease, or sold or leased, until authorization is obtained.

F. Public Interest:

Spirit submits that issuance of a broadcast experimental license as requested is in the public interest, convenience, and necessity. Grant of this license will help Spirit to develop and test innovative equipment that will allow for more effective and efficient transmissions in the AM band.

G. Contact Information:

Technical Contact and "Stop Buzzer/Kill Switch:"

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