

Experiment Description

Edge Spectrum Incorporated (ESI), a low-power television (“LPTV”) licensee in Crockett, Texas, seeks to evaluate potential interference to its broadcast operations on a first adjacent channel, including any interference to both ATSC 1.0 and ATSC 3.0 television receivers. ESI is the licensee of LPTV station KTWC-LD on channel 34 in Crockett, Texas. ESI has confirmed that there is no nearby licensee on channels 32 or 36. ESI will avoid testing in locations and frequencies that hold any potential for interference to other broadcasters, so ESI will observe all separation distances and other interference protection requirements with respect to the non-ESI broadcast station on the same and adjacent channels. Furthermore, all testing will occur outside of the operational hours of the ESI station potentially affected by the testing.

For these tests ESI will use commercial radios capable of operating on adjacent channels to KTWC-LD in a base-station/client-device configuration. The base-station will be mounted on a tower at the location described in this application and the client-devices will operate, communicating with the base station, within a 16 km radius of the tower. Client devices will be transportable fixed devices and are therefore considered to be “mobile” for the purposes of this application.

ESI will measure throughout this experimental area: (1) background noise; (2) received TV signal strength; and (3) received TV signal when the potential interferers are operating on a first adjacent channel, and at a 3 MHz offset from the broadcast television channel. These measurements will be taken at each location, to reflect base-station antenna heights of 30, 60, and 85 meters as well as ATSC 1.0 and ATSC 3.0 receivers. DTV receiver equipment will operate in a truck and will be connected to an external antenna that reaches 10 meters AGL to simulate a household antenna.

This experiment is substantively identical to the experiment described in ESI’s prior STA application for Ardmore, OK, except for the identity of the LPTV station and channel, the city and state, and one of the fixed antenna heights. The Ardmore application was granted in File Number 0620-EX-ST-2019 (Call Sign WO9XHM). ESI was unable to conduct the experiment at the location previously approved because it encountered unexpected problems with the tower that was to be used in Ardmore.