

Experiment Description

Edge Spectrum Incorporated (ESI), a low-power television (“LPTV”) licensee in Ardmore, OK, 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 K22JQ-D on channel 22 in Ardmore, OK and holds a construction permit for K24IW-D on channel 20 in the same area. ESI has confirmed that there is no nearby licensee on channel 21. 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 non-ESI broadcast stations on the same and adjacent channels. Furthermore, all testing will occur outside of the operational hours of the ESI stations potentially affected by the testing.

For these tests ESI will use commercial radios capable of operating on adjacent channels to K22JQ-D and K24IW-D 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, 45, and 60 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.