

### **Spurious Emissions Measurements**

On October 1, 2011, Educational Media Foundation (EMF) Engineer David Smith used EMF's Rohde and Schwarz spectrum analyzer and Shively 2914-3 filter to measure the spurious emissions for stations KLVP Sandy OR (FIN 79245) and KZRI Welches OR (FIN 91542), which transmit via a combined antenna system. The tests were performed with both stations operating as authorized by Construction Permit File numbers BPED-20091125AGF and BPED-20091125AGG, respectively.

#### **Test Procedure**

After calculating the potential intermodulation (IM) products between the signals, a spectrum analyzer was then connected to the sample port of the station being measured, with sufficient padding inserted to prevent overloading the input to the instrument. The reference level was then measured for the station being evaluated.

A filter was then tuned to pass one of the IM frequencies with minimal insertion loss and connected between the sample port and spectrum analyzer to minimize the creation of IM products within the instrument. The level of signal at the calculated IM frequency was then measured.

The results were documented and calculations performed to determine the relationship between the IM product and the carrier level.

These steps were then repeated for each intermodulation frequency on each station.

Further, a "mask" reflecting the values from 73.317(b) through (d) was created in the spectrum analyzer to show that no other spurious emissions were present that exceeded the required values, and "peak hold" mode was used to ensure that the highest peaks were captured over at least ten minutes with normal program modulation.

#### **Results**

The strongest IM product for KZRI was determined to be 95.9 dB below the carrier level. Further, no signal above the noise floor was observed outside the "mask." Full details are available upon request. Therefore, KZRI's operation fully complies with the requirements of 47 C.F.R. 73.317(b) through (d).