



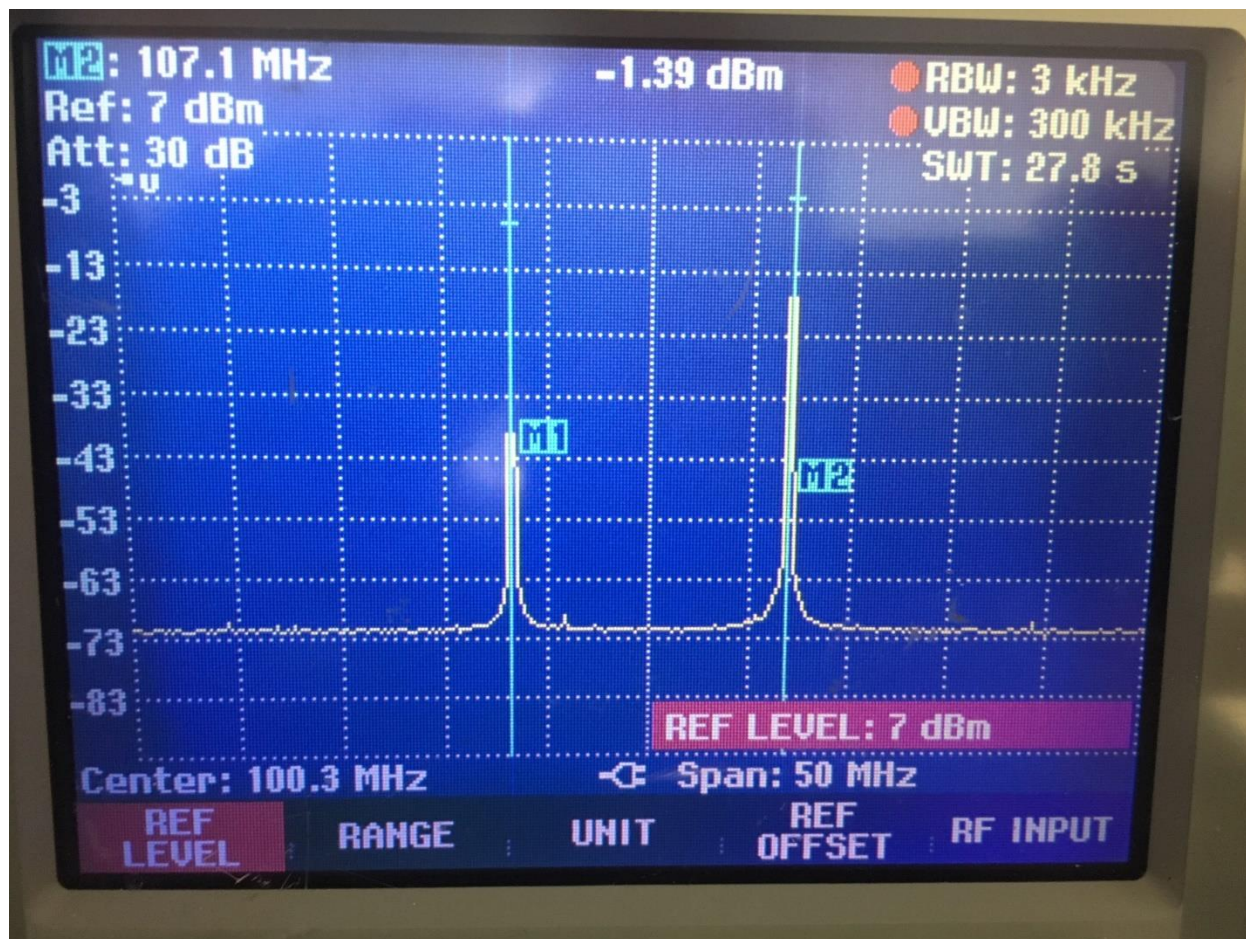
WWYY 107.1 and WSBG 93.5 Spurious emissions test.

04/02/2018

**Purpose:** Spurious emission testing was made a requirement as part of the construction permit for these two stations prior to the beginning of program test authority.

**Methodology:** Measurements of both transmitters were made simultaneously utilizing an ERI directional coupler on the output of the combiner. Measurements were made with transmitter power output needed to achieve ERP specified by the construction permit of each station respectively.

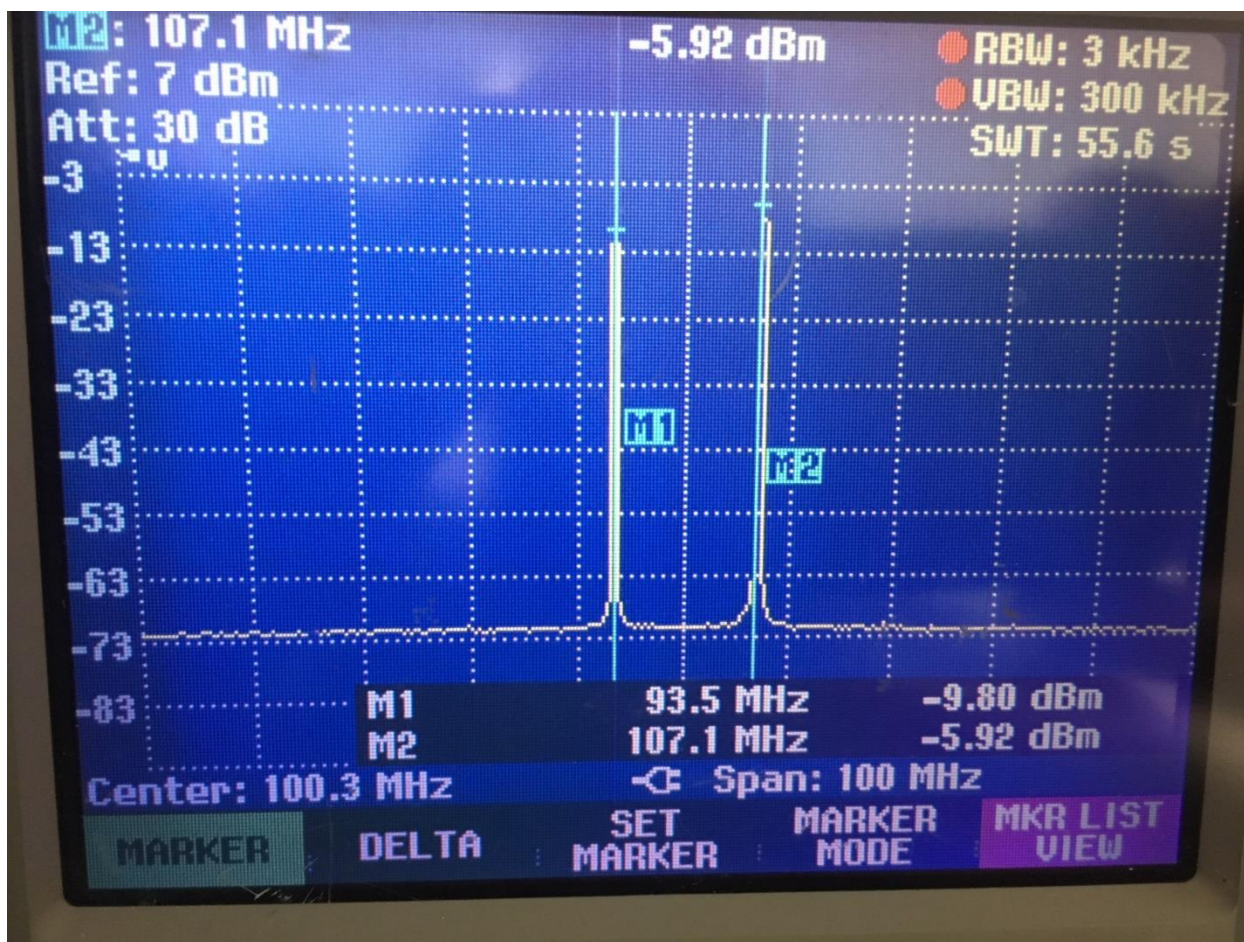
Normal program material was being modulated at 102%, Audio + RDS.



Both WSBG 93.5 and WWYY 107.1 shown together with a 50Mhz span.

No spurious emissions found.

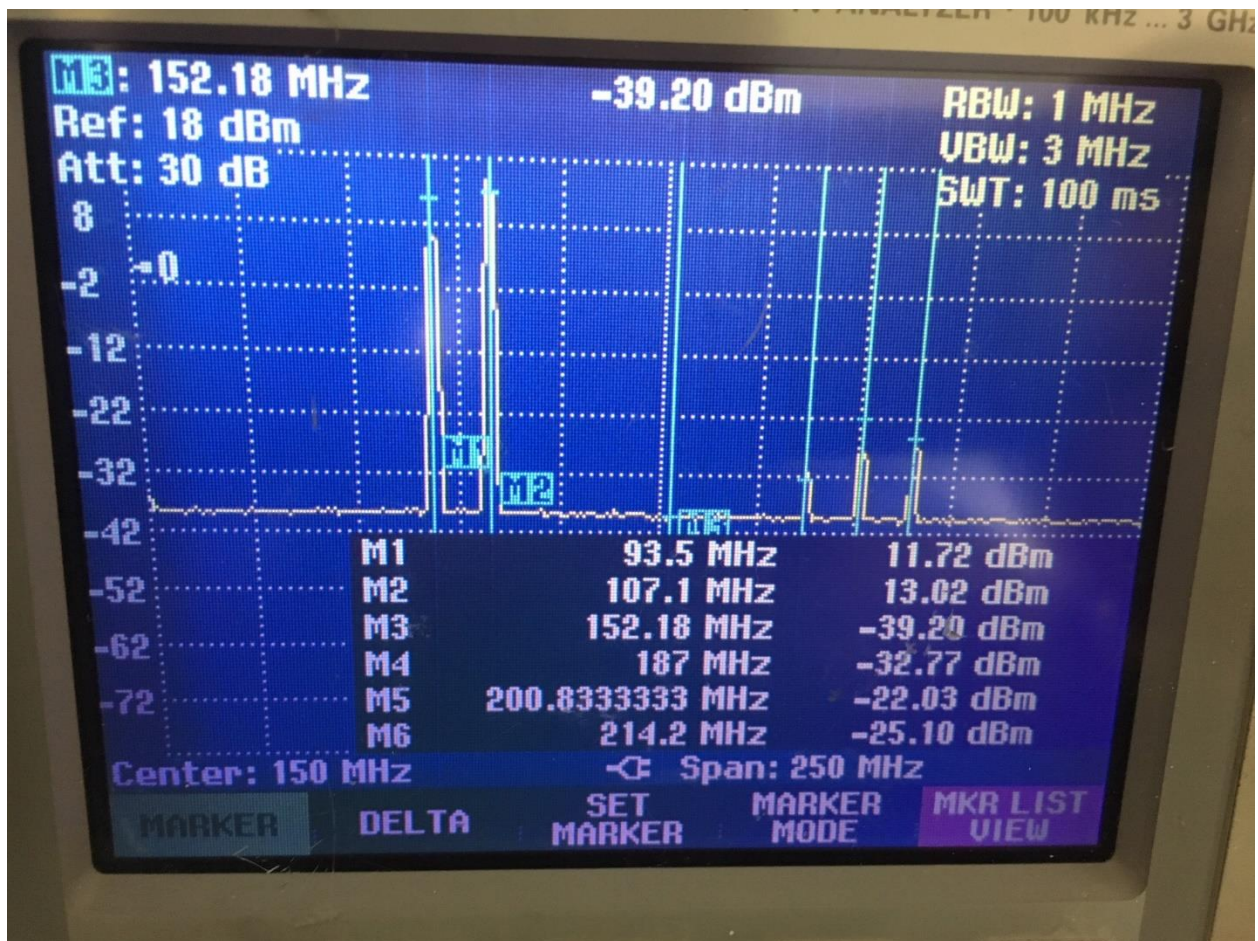
Slightly to the right of marker 1 at 93.5 is a small signal that was later measured at 95.1 WZZO being received by the antenna.



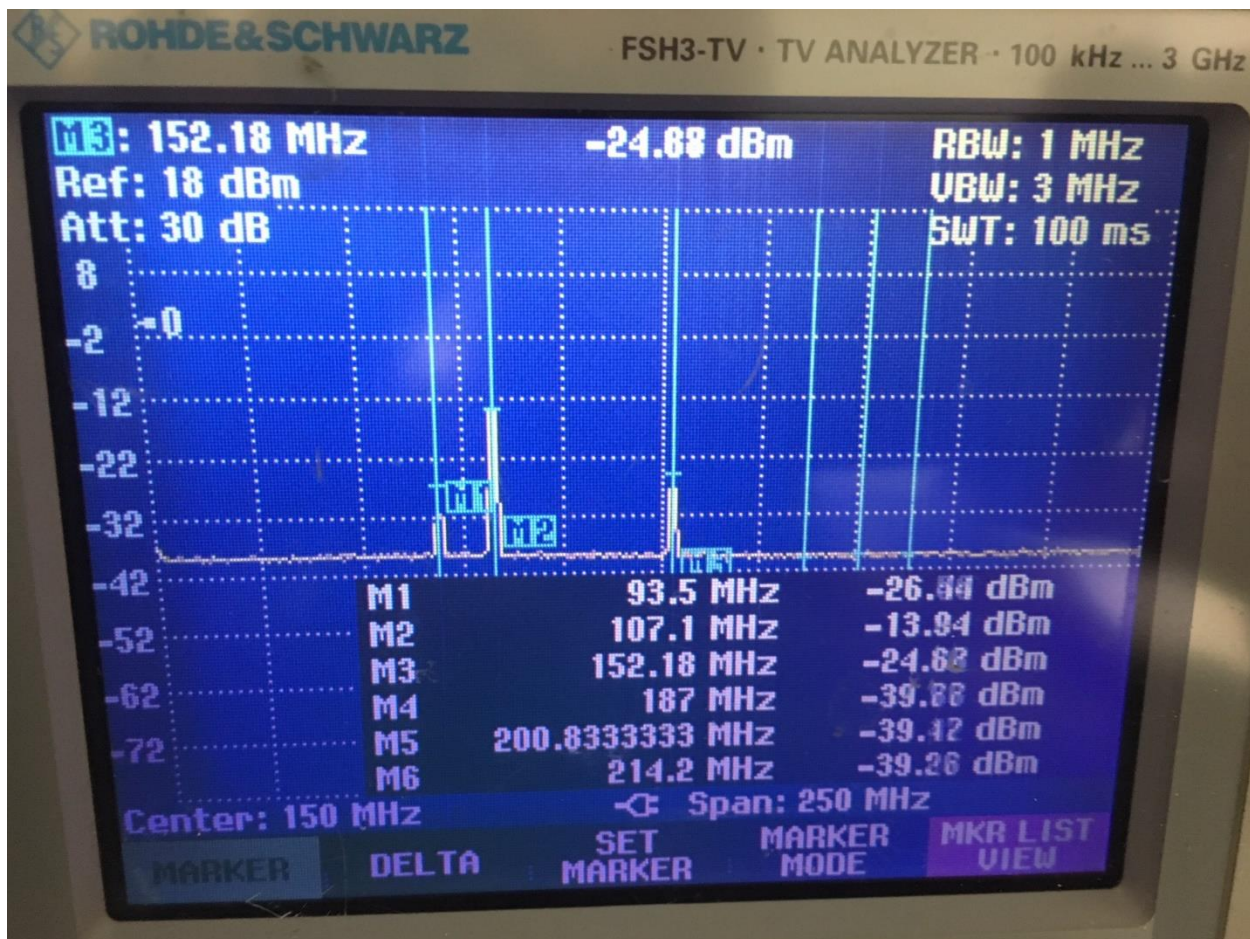
Both WSBG 93.5 and WWYY 107.1 shown together with a 100MHz span.

No spurious emissions found.





Second harmonic measurement of both stations simultaneously. This measurement was performed with no primary carrier filtering.



Second harmonic measurement of both stations simultaneously with a 175MHz high pass filter applied.

Note the carrier at 152.18 is a paging station located on site.

Harmonics were no longer measurable after filter was applied to primary carriers.

No spurious emissions could be measured in this system.

The coupling factor of the directional coupler is -46.1db therefore the measurements taken indicate no spurious emissions at a level of at least 80db below center carrier(s).

It is my opinion that both WSBG and WWYY comply with spurious emission guidelines set forth by the FCC at this location at this time.

A handwritten signature in black ink, appearing to read "Fred A. Francis Jr.", with a large, stylized flourish at the end.

Fred A. Francis Jr.

Owner, Xenirad Broadcast Engineering