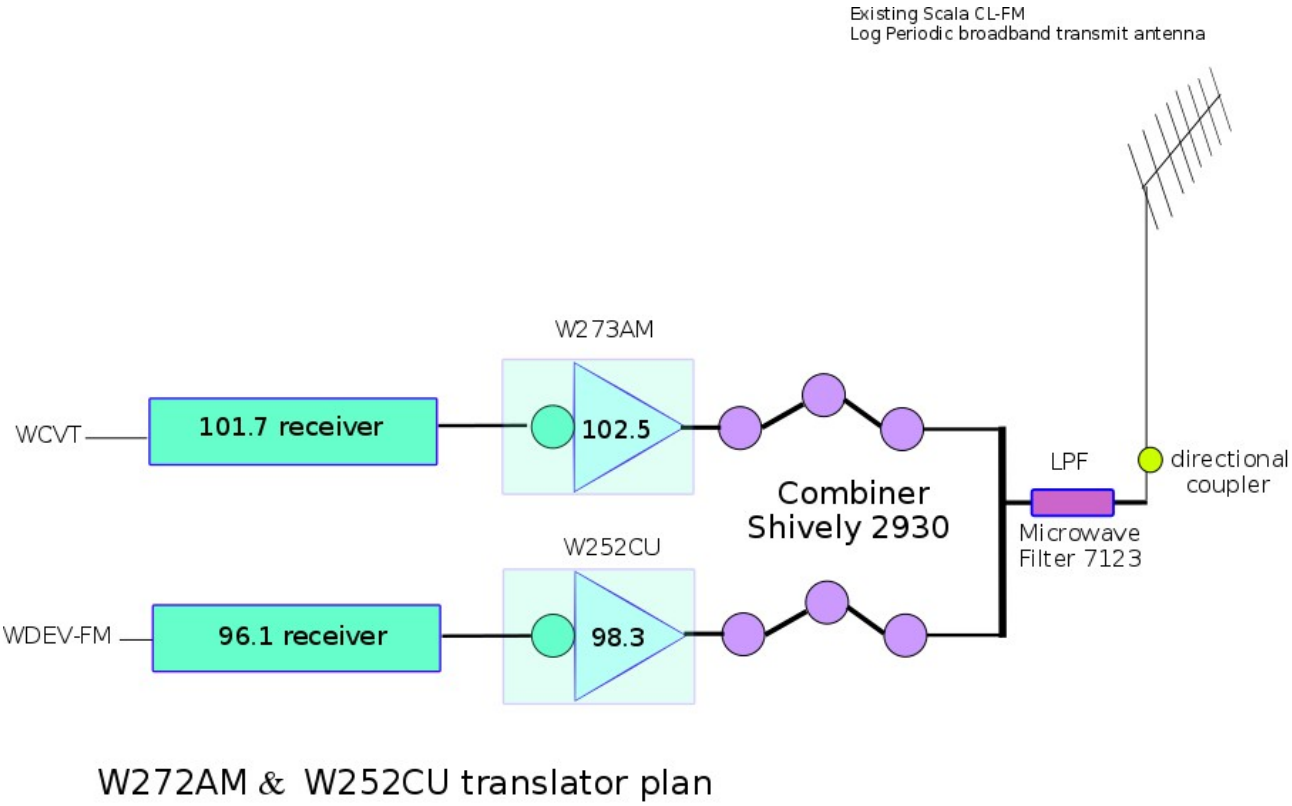
Engineering Statement
W252CU Montpelier, Vermont
BNPFT-20130809ADA
Facility ID 140228

This statement is to support a license application to cover construction permit BNPFT-20130809ADA issued on December 4, 2013, for FM translator W252CU, Montpelier, Vermont, to Radio Vermont, Inc. The Facility ID number is 140228.

W252CU is combined into an existing Scala CL-FM vertically polarized transmitting antenna with



Drawing 1: W252CU & W273AM Translator layout

existing translator W273AM. A directional coupler was inserted to provide a sample of the signal at the output of the combiner and subsequent low-pass filter to a Tektronix 2712 spectrum analyzer. Plots saved from this device are reproduced below, and analyzed to determine compliance with 47 C.F.R. Sections 73.317(b) through 73.317(d), as required by the Construction Permit. The layout of the translators is shown in Drawing 1.

Authorized ERP for both stations is 250 watts. Scala CL-FM antenna input for this ERP is 50 watts, line input is 56 watts. The MFC 7123 low pass filter's loss is given as 0.0 db at 98.3, and 0.1 db at 102.5. The manufacturer's measured loss for the Shively 2930 combiner is 0.9761 db at 98.3 MHz, and 1.0686 db at 102.5. Calculated TPO is 69.9 Watts for W252CU, and 71.6 Watts for W273AM.

TPO was set to 70 watts on both W252CU and W273AM. The spurious suppression necessary for compliance with 47 CFR 73.317(d) at this power level is 61.5 db.

Occupied bandwidth was found to be 240 KHz or less, as shown in the following spectrum plots. This first plot shows signal 240 KHz below the signal to be 71.9 db down.

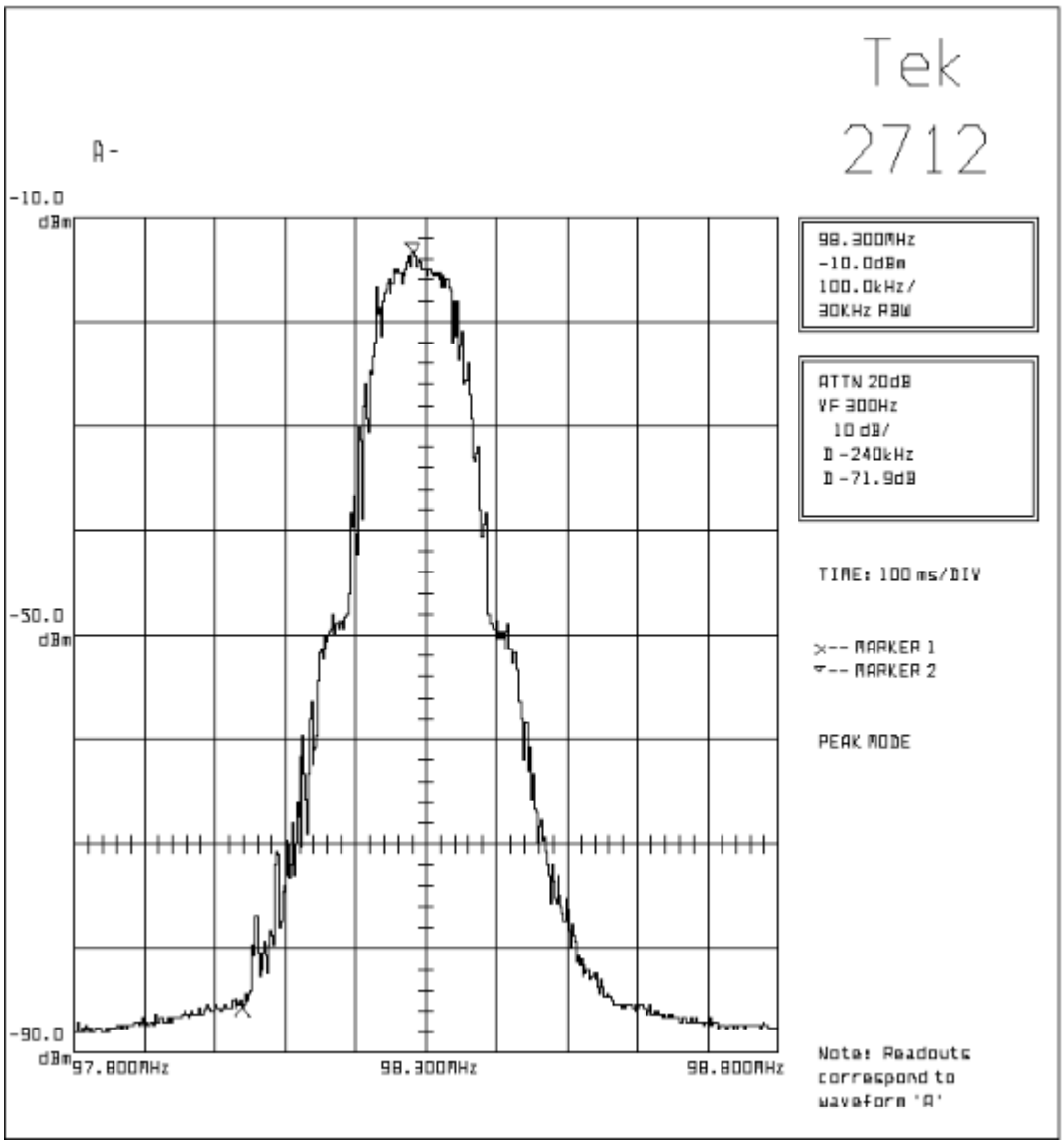


Illustration 1: W252CU occupied bandwidth 71.9 db down at 240 KHz below 98.3 MHz

The next plot shows signal 240 KHz above to be suppressed 67.9 db. WDEV-FM, the originating station, normally operates monaurally:

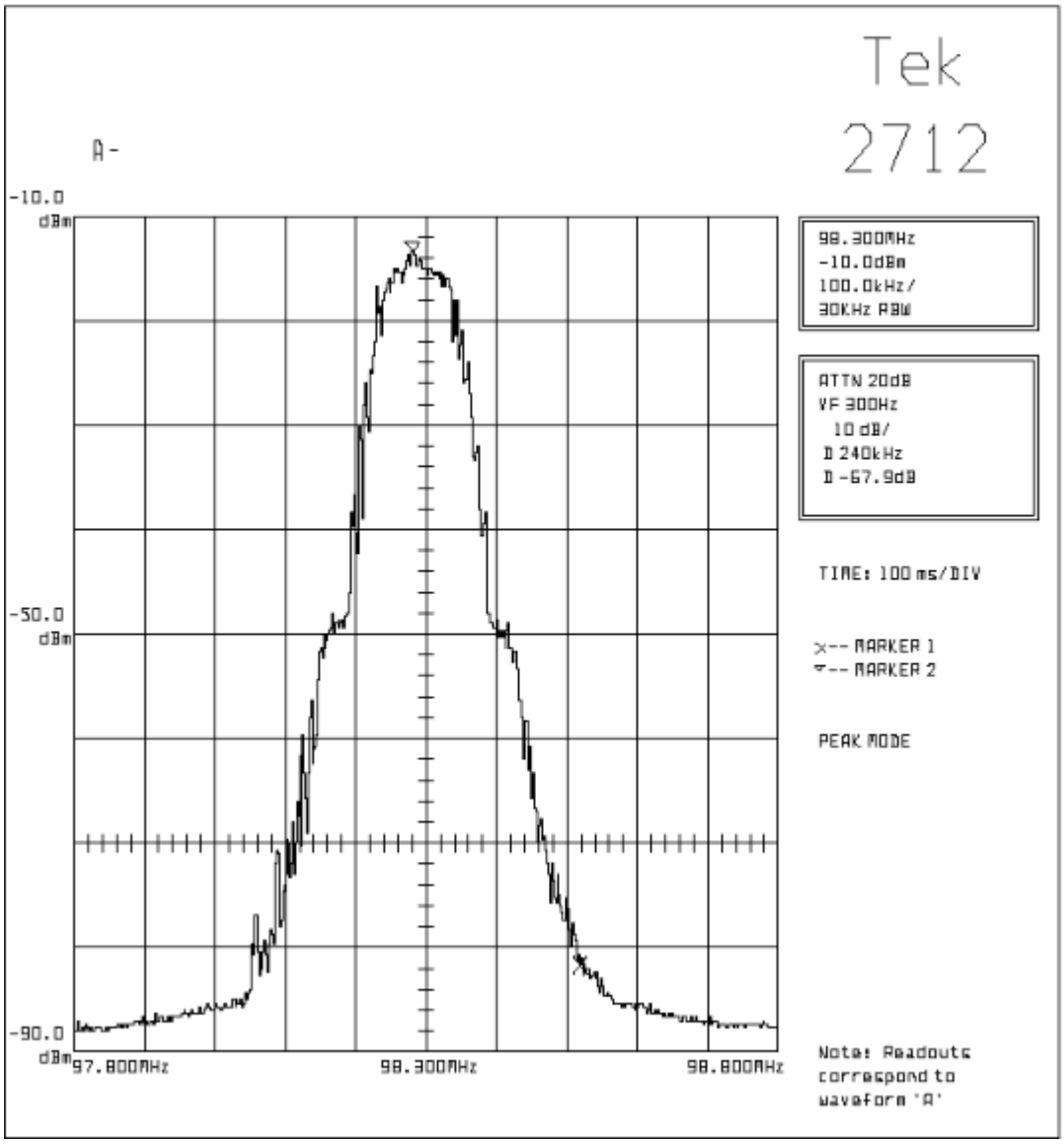


Illustration 2: W252CU occupied bandwidth 67.9 db down at 240 KHz above 98.3 MHz

Illustration 3 shows spectrum from 28 MHz to 1028 MHz. Signal at 950 MHz is aural STL WPYH730, operating from the same location, adjacent to W252CU transmitting antenna. Signal at approximately1014 MHz is 63.9 db below W252CU's carrier, and is not associated with the operation of either W252CU or W273AM:

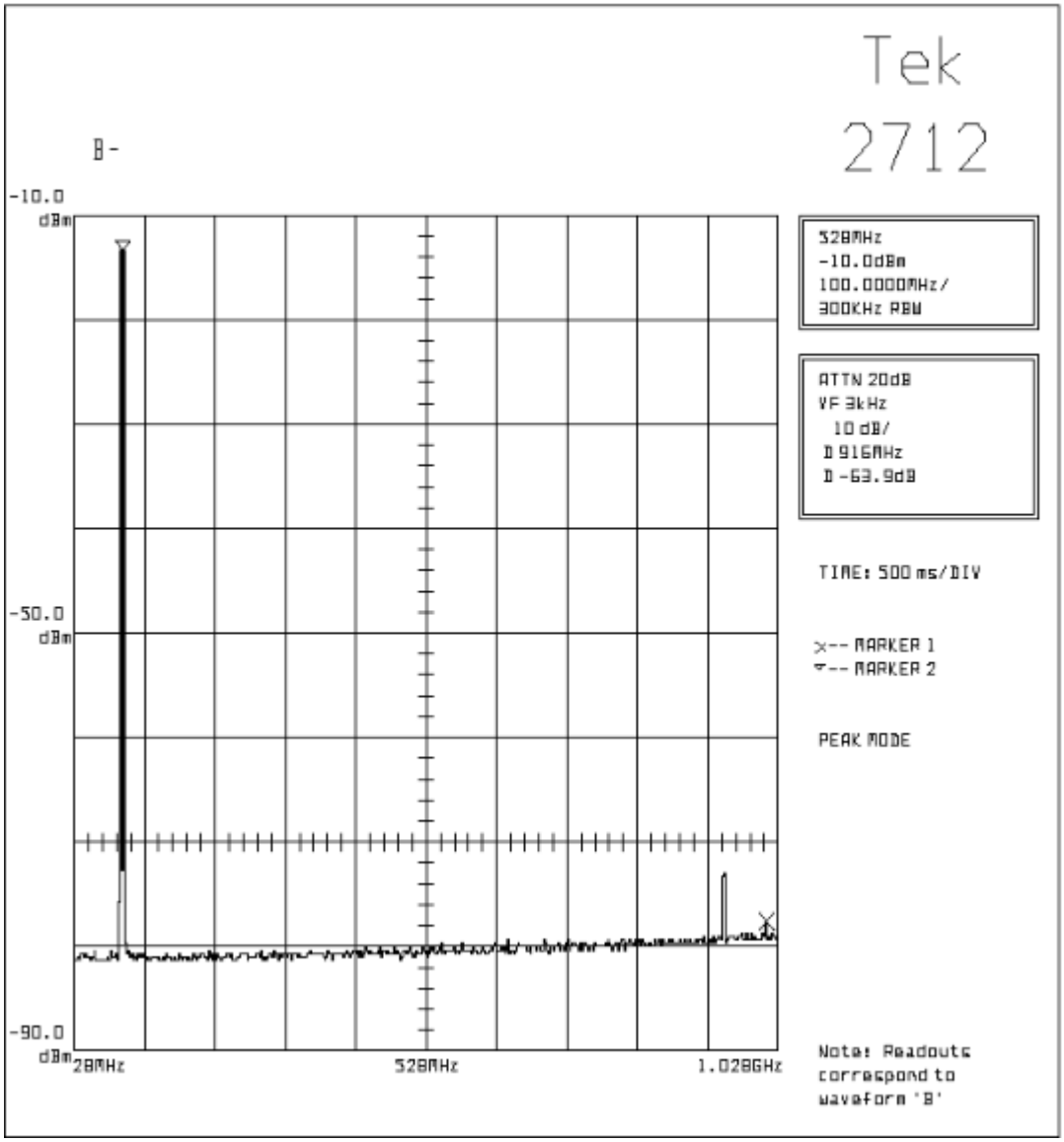


Illustration 3: Plot 28 - 1028 MHz, showing 950 MHz STL and non-associated source

Illustration 4 identifies signals found in the FM band at the directional coupler tap-off point. Where there are no licensed signals, the noise floor is 67 db or more below W252CU's carrier. The stations shown are:

W241BQ	Montpelier
W252CU	Montpelier
W258BQ	Montpelier
WWFY	Berlin
W273AM	Montpelier

All are located in Vermont.

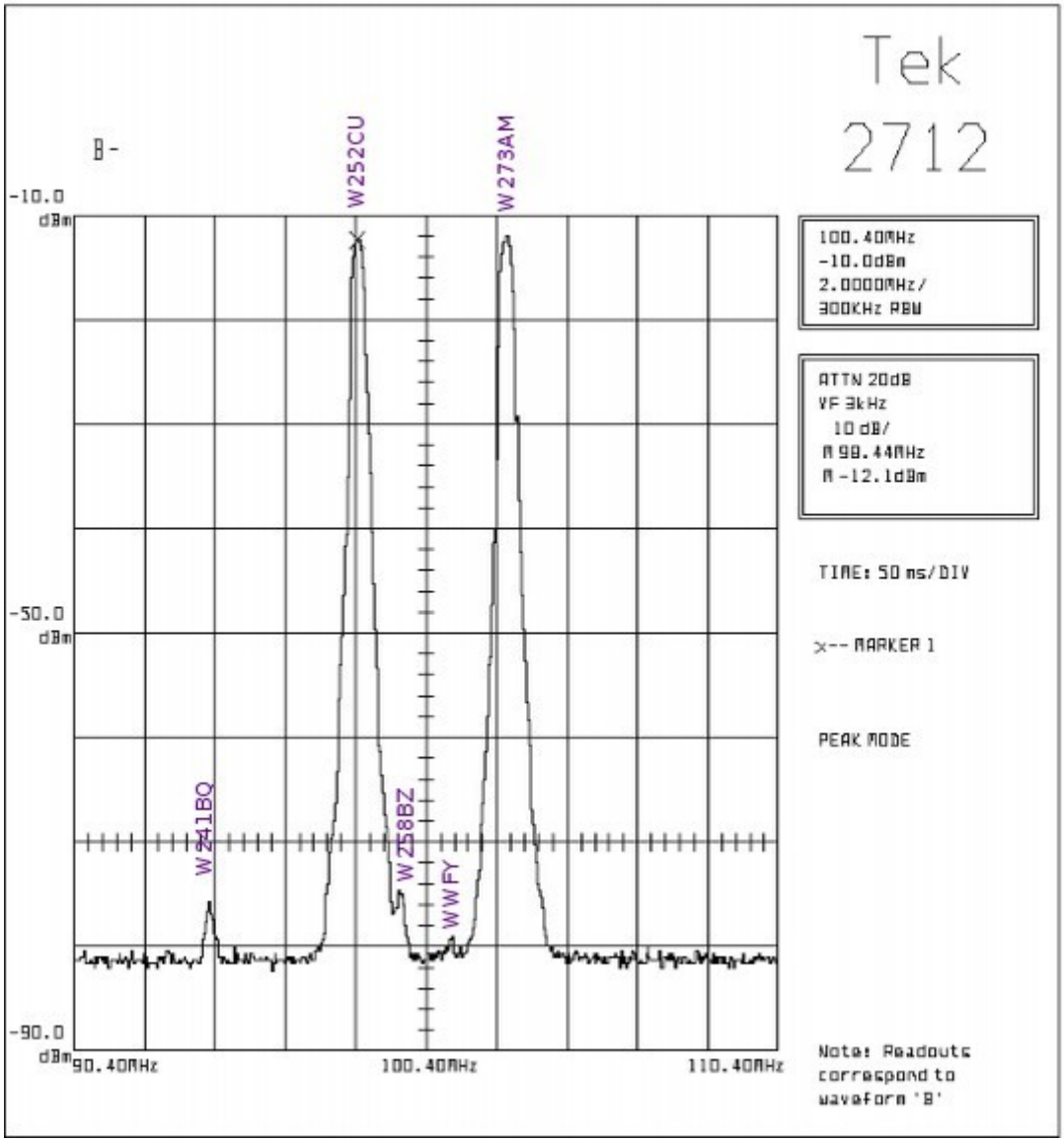


Illustration 4: FM signals present at output of combiner

Radio Frequency Exposure:
Radio Vermont Inc, in coordination with other users of this site, will reduce power or cease operation to protect members of the general population and workers who have access to this site from exposure to radiofrequency electromagnetic fields in excess of FCC guidelines.

Respectfully submitted,

Tom Laffan
Broadcast Consulting
September 7, 2016