

## **ENGINEERING STATEMENT – SECOND ADJACENT CHANNEL PROTECTION**

WVKL (16.1 kilometers at 258 degrees True from LPFM site) and WPTE (3.9 kilometers at 171 degrees True from LPFM site) (Norfolk, VA, 239B and Virginia Beach, VA, 235B, respectively) are second adjacent-channel stations to the proposed channel 237 LPFM facility. The 54 dBu F50,50 service contour of each extends well beyond the LPFM transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to WVKL or WPTE.

Note that a rule waiver of Section 73.807 for this second adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to this station.

The F50,50 signal strength from WVKL at the proposed LPFM transmitter site is 87 dBu (the “desired” signal for WVKL). The F50,50 signal strength from WPTE at the proposed LPFM transmitter site is greater than 100 dBu (the “desired” signal for WPTE). The second/third adjacent-channel protection is an undesired-to-desired (“U/D”) dB signal strength ratio of 40:1. Therefore, predicted interference to the worst-case of the above two protected facilities is to that of WVKL and is a LPFM signal of greater than or equal to 127 dBu.

The 127 dBu signal based on a free space field determination is predicted to extend out to 9 meters from the proposed LPFM transmit antenna. The interfering signal level will not reach any point beyond the rooftop that is accessible to the general public. There are no residences located at this office building within 15 meters of the LPFM antenna. Therefore, both WVKL and WPTE are adequately protected by the proposed facility.