

ENGINEERING STATEMENT – SECOND ADJACENT CHANNEL PROTECTION

WNFN (9.8 kilometers at 352 degrees True from LPFM site) and WNRQ (16.9 kilometers at 202 degrees True from LPFM site) (Millersville, TN, 294C3 and Nashville, TN, 290C, respectively) are second adjacent-channel stations to the proposed channel 292 LPFM facility. The 60 dBu F50,50 service contours of both extend 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 WNFN or WNRQ.

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 WNFN at the proposed LPFM transmitter site is 86 dBu (the “desired” signal for WNFN). The F50,50 signal strength from WNRQ at the proposed LPFM transmitter site is 94 dBu (the “desired” signal for WNRQ). 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 WNFN and is a LPFM signal of greater than or equal to 126 dBu.

The 126 dBu signal based on a free space field determination is predicted to extend out to 16 meters from the proposed LPFM transmit antenna. The interfering signal level will not reach any point at ground level or at 2 meters above ground level. Therefore, both WNFN and WNRQ are adequately protected by the proposed facility.