

## ENGINEERING STATEMENT – SECOND ADJACENT CHANNEL PROTECTION

WJMN, Boston, MA, 233B (65.6 kilometers at 22 degrees True from LPFM site) is a second adjacent-channel station to the proposed channel 235 LPFM facility. The LPFM transmitter site (as amended) is 1000 meters outside of the 54 dBu F50,50 service contour of this station, but is close enough to require this waiver showing. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to WJMN.

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 any station.

As mentioned above, the amended LPFM transmitter site is actually 1000 meters outside of the 54 dBu F50,50 contour of WJMN (the “desired” signal being 54 dBu for this study). 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 protected facility is an LPFM signal of greater than or equal to 94 dBu.

The 94 dBu signal based on a free space field determination is predicted to extend out to 372 meters from the proposed LPFM transmit antenna (using the maximum allowed ERP of 7 watts for the LPFM). The interfering signal level will not reach the 54 dBu service contour of WJMN. Therefore, WJMN is adequately protected by the proposed facility.