

**DELAWDER COMMUNICATIONS, INC.**

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**ENGINEERING REPORT**

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**K231CN, Richmond, TX, Channel 231D FM Translator Application**

**ENGINEERING STATEMENT**

Applicant proposes this minor change to the K231CN FM translator station to relocate its transmitter site and serve Richmond, Texas on channel 231D. Due to 60 dBu service contour overlap with the K231CN licensed facility (see attached Figure EE1), this proposal is deemed a minor change proposal.

**PROTECTION TO KQBT AND KTBZ-FM**

KQBT, Houston 229C (1.7 kilometers at 77 degrees True from proposed translator site) and KTBZ-FM, Houston 233C (0.6 kilometers at 3 degrees True from proposed translator site) are second-adjacent channel facilities to the proposed channel 231D facility. The 60 dBu F50,50 service contour of these two full-powered FM stations extends well beyond the proposed channel 231D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to either KQBT or KTBZ-FM.

The F50,50 signal strength from both KQBT and KTBZ-FM at the proposed 231D transmitter site is greater than 100 dBu (the “desired” signals). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired (“U/D”) dB signal strength ratio of 40:1. Therefore, lowest predicted interference level that will cause interference to either of these full-powered FM stations is a signal of greater than or equal to 140 dBu.

The 140 dBu signal based on a free space field determination is predicted to extend out to less than 12 meters from the proposed 231D transmit antenna. The interfering signal level will not reach any point at ground level or at 2 meters above ground level. Therefore, both KQBT and KTBZ-FM are adequately protected by the proposed facility.