

EXHIBIT 11

Spurious Emissions Analysis WOLF Radio, Inc. April, 2017

Condition #4 of the construction permit for W223CP requires that sufficient measurements be made to establish compliance with Sections 73.317(b) through 73.317(d) of the Commission's rules.

WOLF Radio, Inc., as the owner of the antenna structure (ASR: 1007737), requires all FM translator tenants at the site to employ the use of bandpass filters for each individual transmission system in order to ensure compliance for the suppression of any potential intermodulation, harmonic or out-of-band emissions.

Regarding condition #4 for W223CP, there is no shared antenna to be utilized, but the new W223CP antenna system is closely situated to the W231CS antenna located on the opposite side of the 42" face antenna structure. Each transmitter utilizes its own Jampro (Model RCBC-D03) 3-pole bandpass filter feeding its own transmission line and antenna system.

Tests were performed with all transmitters at the site operating simultaneously at their normal operating parameters. Measurements made at the final sample output of the transmitter for W223CP utilizing a Tektronix 2710 spectrum analyzer revealed only one intermodulation product greater than -90 dBc (the limit of the spectrum analyzer). A spurious product at 90.9 MHz was measured to be 79 dB below the W223CP carrier with operation at the specified TPO of 370 watts. The intermodulation product is the result of the W223CP carrier at $92.5 \text{ MHz} \times 2 - 94.1 \text{ MHz} = 90.9 \text{ MHz}$. For 370 watts TPO, Section 73.317 requires a minimum suppression of -68.7 dBc for any spurious products

more than 600 kHz removed from the carrier. Frequencies throughout the VHF band, especially the aircraft band (108 – 136 MHz), and up through the fifth harmonic were carefully scanned and no other spurious emissions were detected thus meeting the requirements of Sections 73.317(b) – (d).

Likewise, the W231CS transmitter at 94.1 MHz was measured and the only spurious product was found at 95.7 MHz at -81 dBc ($94.1 \text{ MHz} \times 2 - 92.5 \text{ MHz} = 95.7 \text{ MHz}$). The W231CS transmitter operates at 740 watts TPO where the minimum suppression requirement is 71.7 dB below the carrier level. Over the same wide frequency span, no other spurious products were found thereby meeting all emission suppression requirements.

In conclusion, the W223CP transmission system is found to be fully compliant with the emission suppression requirements in Sections 73.317(b) – (d) and is ready for regular operation.