

## EXHIBIT 12 – TRANSMITTER POWER OUTPUT

The transmitter power output for the station is 18.0 watts. This has been calculated based on the following:

1. The authorized effective radiated power is 10.0 watts.
2. The transmission line is 92 meters of Andrew LDF5-50A coaxial cable. This type of cable has 1.16 dB loss per 100m<sup>1</sup>, or 1.07 dB for the length in use. This equates to an efficiency of 78.2%.
3. A ferrite isolator is installed on the output of the translator to prevent intermodulation products between W2235AA and other FM stations on the tower from being manifested in the W235AA transmitter. Following the isolator is a low-pass filter which attenuates any harmonics produced by the isolator. The total insertion loss of the isolator, low-pass filter, and interconnecting cables is 1.19 dB<sup>2</sup>. This is equivalent to an efficiency of 76.0%
4. The maximum gain of the directional antenna is 0.94<sup>3</sup>.
5. The transmitter power output is this calculated as follows:

Authorized effective radiated power:	10.0 watts
Transmission line efficiency:	÷ 78.2 %
Isolator/filter efficiency:	÷ 76.0 %
Antenna gain:	<u>÷ 0.94</u>
Transmitter power output:	17.90 watts

6. Rounding to the nearest 0.5 watt increment per 47 CFR §73.212(a), the transmitter output power is thus 18.0 watts.

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<sup>1</sup> Manufacturer's specification

<sup>2</sup> Measured using an Agilent E5070B network analyzer

<sup>3</sup> Manufacturer's specifications