

## Transmitter Power Output Calculation

**WCMJ (FM)**

Channel 244A – 96.7 MHz

1.35 kW ERP – 148 m HAAT

Cambridge, Ohio

June 2015

### Given:

Effective Radiated Power: 1.35 kW

Antenna Power Gain (Multiplier): 0.9971

Transmission Line Efficiency: 87.94%

Filter Efficiency: 84.13% (Loss of 0.75 dB)

### Calculation:

1.35 kW Effective Radiated Power  $\div$  0.9971 Antenna Power Gain = 1.3539 kW Antenna Input Power

1.3539 kW Antenna Input Power  $\div$  0.8794 Transmission Line Efficiency  $\div$  0.8413 Filter Efficiency = 1.83 kW Transmitter Power Output\*

\* 1.83 kW rounds to 1.85 kW per Section 73.212(a)