

## Transmitter Power Output Calculation

### KUAF (FM)

Channel 217C0 – 91.3 MHz  
100 kW ERP – 861 m COR AMSL  
Fayetteville, Arkansas  
July 2019

Given:

Effective Radiated Power: 100 kW  
Antenna Power Gain (Multiplier): 8.177  
Transmission Line Efficiency: 82.99%  
Connector Efficiency: 99.30%

Calculation:

100 kW Effective Radiated Power  $\div$  8.177 Antenna Power Gain = 12.23 kW Antenna Input Power

12.23 kW Antenna Input Power  $\div$  0.8299 Transmission Line Efficiency  $\div$  0.993 Connector Efficiency = 14.84 kW Transmitter Power Output\*

\* 14.84 kW Transmitter Power Output rounds to 15.0 kW per §73.212(a)