

KKWY(FM) Superior, WY

Transmitter Power Output Calculations

TPO Calculations:

$$\text{TPO} = \frac{\text{Effective Radiated Power}}{(\text{Antenna Power Gain} * \text{Feed System Efficiency})}$$

Antenna Power Gain:

Antenna: ERI LPX-4E
Polarization: Circular
Power Gain: 2.133 x

Feed System Efficiency:

Feed Line to Antenna:
Type: Andrew HJ7-50
Length: 114 ft
Insertion Loss: 0.28 dB

Total Losses = 0.28 dB
Feed System Efficiency = 93.85 %

$$\frac{7 \text{ kW}}{(2.133 * 93.85\%)} = \underline{\underline{3.50 \text{ kW TPO}}}$$