

Transmitter Power Output Calculation K221GL (formerly K285CW)

Channel 221D – 92.1 MHz
0.120 kW ERP – 2174 m HAAT
Prescott, Arizona
January 2017

Given:

Effective Radiated Power: 0.120 kW
Antenna Gain (Multiplier): 5.0
Transmission Line Efficiency: 76.7%
Cavity Filter Efficiency: 83.2% (0.8 dB Loss)

Calculation:

0.120 kW Effective Radiated Power \div 5.0 Antenna Gain = 0.024 kW Antenna Input Power

0.024 kW Antenna Input Power \div 0.767 Transmission Line Efficiency \div 0.832 Cavity Filter Efficiency = 0.0376 kW Transmitter Power Output*

* 0.0376 kW Transmitter Power Output rounds to 0.038 kW per §73.212(a).