

Transmitter Power Output Calculation

Translator W280EC

Channel 280D – 103.9 MHz

0.038 kW ERP (DA) – 176.7 m COR AMSL

Concord, New Hampshire

April 2023

Given:

Effective Radiated Power: 0.038 kW

Antenna Gain (Multiplier): 0.47

Transmission Line Efficiency: 48.12%

Isocoupler Efficiency: 97.7% (0.1 dB)

Calculation:

0.038 kW Effective Radiated Power \div 0.47 Antenna Gain = 0.08085 kW Antenna Input Power

0.08085 kW Antenna Input Power \div 0.4812 Transmission Line Efficiency \div 0.977 Isocoupler Efficiency = 0.17197 kW Transmitter Power Output*

* 0.17197 kW Transmitter Power Output rounds to 0.170 kW per §73.212(a).