

W291DM
Transmitter Power Output Calculation
106.1 MHz - .25 KW ERP – 399 M AMSL
Greensboro, NC
March 2021

Given:

ERP	.25 KW
Antenna	Two CL-FM with 45 degree slant polarization – 4.47 gain multiplier
Transmission Line	499 feet of RFS LCF78-50JA air dielectric - loss is -1.871 dB
Connector and other loss	-0.193 dB loss

Calculation:

250 Watts divided by the antenna gain of 4.47 = an antenna input of 55.92 Watts

Transmission line loss = -1.871 dB or 64.998%

Connector and other losses = 0.193 dB or 95.65%

Total system loss (transmission line, connectors and other) = -2.064 dB or 62.17% efficient.

Antenna input of 55.92 divided by the system efficiency of 62.17% produces a Transmitter Power output of 89.9Watts Watts.

89.9 Watts rounds to 90 Watts per Section 73.212(a).

Bromo Communications, Inc.