

**Engineering Exhibit For
Tri-County Broadcasting, Inc.
W239CU
Sauk Rapids, Minnesota
March 2020**

W239CU Transmitter Power Output Calculation

Frequency = 95.7 MHz

ERP = 250 watts

Antenna gain = 0.994

310 feet 7/8" foam Heliax = 0.7649

KTL Isolation Coil = 0.9115

KTL combiner = 0.8670 (-0.62 dB)

30 feet 1/2" foam Heliax = 0.9539

$$\text{TPO} = 250 / 0.994 / 0.7649 / 0.9115 / 0.8670 / 0.9539 = \underline{\underline{\mathbf{436 \text{ watts}}}}$$