

## Exhibit 7.1

### Transmitter Power Output Calculation

FM System Calculator

**Options**

Solve For: ☒ TPO ☐ ERP

Antenna input: ☒ End fed ☐ Center Fed

Edit Antenna Database

**Transmission Line FM Mid-Band Average Power Rating is 16.4kW**

**User Input**

ERP: 1 kW

Frequency: 89.9 MHz

Center of Radiation (COR) - AGL: 92 ft 28.0 m

2 Bay / Generic / Half-Wave Spacing Antenna

Additional Losses: .75 dB

Distance, Transmitter to Tower: 40 ft 12.2 m

Andrew LDF7-50A, 1-5/8" Foam Heliax Trans. Line

**Calculated Results**

Antenna Power Gain	0.702	Tx Line Length	129 ft (39.4 m)
Antenna Field Gain	.8379	Minimum Tower Aperture	15 ft (4.6 m)
Ant. Fl @ 1 mi./1kW	115.289 mV/m	Top Bay Elevation - AGL	95 ft (28.9 m)
Antenna Input Power	1.425 kW	Antenna Length	5 ft (1.7 m)
Line Attenuation/100 ft	.1962 dB	Bottom of Antenna - AGL	89 ft (27.2 m)
Power Loss in Coax	.370 kW		
<b>TPO</b>	<b>1.795 kW</b>		

79.4 % Eff

**This Software is Provided for Planning Purposes Only!**

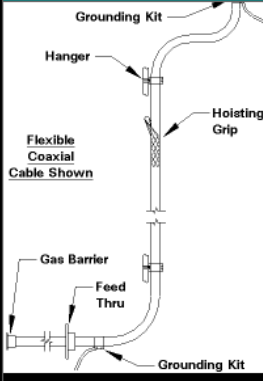
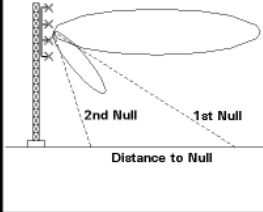
**Line Accessories**

# of Hangers	30
Hanger Spacing	3 ft
# of Hanger Adapters	30
# of Hoisting Grips	0
# of Grounding Straps	2

**1st Null** 90 Degrees, 0 mi.

**2nd Null**


**No Beam Tilt or Null Fill Used**



The diagram shows a vertical antenna tower assembly. At the top is a horizontal antenna element. Below it is a hanger, followed by a hoisting grip. A flexible coaxial cable runs down the tower, secured by a gas barrier and a feed thru. The tower is grounded at the base with a grounding kit. A diagram to the left shows the radiation pattern of the antenna, with the 1st null at 90 degrees and 0 miles, and the 2nd null at a distance to null.

*The Following Systems Will Work In This Application:*

*A 815D5-5 kW Solid-State Analog FM Transmitter*



Note: "Additional Losses" shown above are from a new 4-Cavity Band Pass Filter and Hard Line Parts.