

TPO Calculation Summary

Main Antenna Operation

Call letters: W284CW
City of License: Madison, WI
Frequency: CH284D - 104.7 MHz
File No: BMPFT-20160129ABK
Facility ID: 138668
Applicant: University of Northwestern-St. Paul

Operating Effective Radiated Power (ERP): 0.250 kW

ANTENNA INFO

Antenna Make: Bext
Antenna Model: TFC2K-2 (3/4 Wavelength)
No of Elements: Two (2)
Antenna COR AGL: 100 meters AGL
Antenna COR AMSL: 396 meters AMSL
Max Input Power: 1.000 kW
Power Gain: 0.807
Log[power gain]*10 = Antenna Gain: -0.931 dB
Calculated Antenna Input Power: 0.310 kW

System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
System Feedline (total)	Andrew 1/2" LDF4-50A (0.677 dB/100 ft)	360 ft	-2.47 dB
1/2 Inch End Connectors	Generic (4@0.02 dB each)		-0.080 dB
Power Converter	Bext Power Diverter		-0.100 dB
Lightning/Surge Suppressor	Times Micro LP-GTR-DFF-35		-0.050 dB

TOTAL SYSTEM GAIN/LOSS: -3.631 dB
 $1 / [10^{[-3.631/10]} / \text{ERP}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 0.577 \text{ kW}$

Munn-Reese, Inc.

Broadcast Engineering Consultants

Coldwater, MI 49036