

TPO Calculation Summary

Main Antenna Operation

Call letters: W284AH
City of License: Lansing, MI
Frequency: CH284D (104.7 MHz)
File No: BPFT-20150618AAL
Facility ID: 77818
Applicant: Spring Arbor University

Operating Effective Radiated Power (ERP): 0.250 kW

Antenna Make: BEXT

Antenna Model: TFC1K-2

No of Elements: Two (2)

Antenna COR AGL: 27 meters AGL

Antenna COR AMSL: 285 meters AMSL

Max Input Power: 1.5 kW

Power Gain: 0.99

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } -0.044 \text{ dB}$

Calculated Antenna Input Power: 0.253 kW

System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
1/2 Inch End Connector	Generic (1 @0.02 dB each)		-0.020 dB
Main Antenna Feedline (Tower)	Andrew 1/2" LDF4-50A (Foam) (0.677 dB/100 ft)	121 ft	-0.819 dB
1/2 Inch End Connector	Generic (1 @0.02 dB each)		-0.020 dB

TOTAL SYSTEM GAIN/LOSS: -0.903 dB

$1 / [10^{(-0.903/10)}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 0.308 \text{ kW}$