

# TPO Calculation Summary

## Main Antenna Operation

Call letters: WZTC(FM)  
City of License: Traverse City, MI  
Frequency: CH283A (104.5 MHz)  
File No: BPH-19941020MH  
Facility ID: 65931  
Applicant: The MacDonald Broadcasting Company

ANTENNA INFO

Operating Effective Radiated Power (ERP): 1.75 kW

Antenna Make: SWR Inc.  
Antenna Model: FM1-R4  
No of Elements: Four (4)  
Antenna COR AGL: 91 meters AGL  
Antenna COR AMSL: 419 meters AMSL  
Power Gain: 2.1  
Log[power gain]\*10 = Antenna Gain: 3.22 dB

### System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
Generic End Connector	1 at 0.02 dB each		-0.02 dB
Main Transmission Line	Andrew 1 5/8" AVA7-50 (0.201 dB/100 ft)	380 ft	-0.764 dB
Generic End Connector	1 at 0.02 dB each		-0.02 dB

TOTAL SYSTEM GAIN/LOSS: 2.416 dB  
 $1 / [[10^{2.416/10}]/ERP]] =$  CALCULATED TRANSMITTER POWER OUTPUT: 1.003 kW

**Munn-Reese, Inc.**

Broadcast Engineering Consultants

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