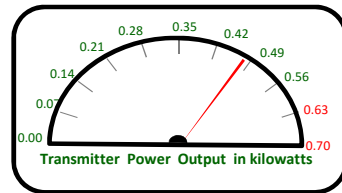
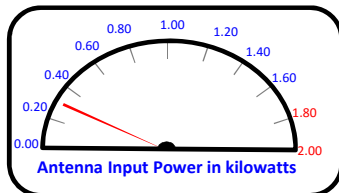


# TPO Calculation Summary

## Main Antenna Operation

**Call letters:** W284AH  
**City of License:** Lansing, MI  
**Frequency:** CH284D (104.7 MHz)  
**File No:** BPFT-20151216ABP  
**Facility ID:** 77818  
**Applicant:** West Central Michigan Media Ministries



**Operating Effective Radiated Power (ERP):** 0.250 kW

**Antenna Make:** BEXT

**Antenna Model:** TFC1K-2

**No of Elements:** Two (2)

**Antenna COR AGL:** 95 meters AGL

**Antenna COR AMSL:** 349 meters AMSL

**Max Input Power:** 2.0 kW

**Power Gain:** 0.9353

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain:}$  -0.290 dBd

**Calculated Antenna Input Power:** 0.267 kW

**Transmitter Make/Model:** BEX-XT700S

**Transmitter Rated Power:** 0.700 kW

### System Loss Info:

Description	Component Make/Model	Length	Loss
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Tower)	Celflex LCF78-50JA (7/8" Foam)	(0.358 dB/100 ft) 295 ft	-1.056 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Isocoil (Isocoupler)	Kinstronics ISO-170-FM		-0.800 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Ground 1)	Celflex LCF12-50 (1/2" Foam)	(0.684 dB/100 ft) 23 ft	-0.157 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Lightning Protection	Polyphasor VHF50HN-MA		-0.100 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Ground 2)	RG-214	(2.300 dB/100 ft) 3 ft	-0.069 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Low Pass Filter	Microwave Filter Model 7123		-0.250 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Ground 3)	RG-214	(2.300 dB/100 ft) 3 ft	-0.069 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd

**TOTAL SYSTEM GAIN/LOSS:** -2.95 dBd

$1 / [10^{(-2.95/10)}] = \text{CALCULATED TRANSMITTER POWER OUTPUT:}$  0.493 kW