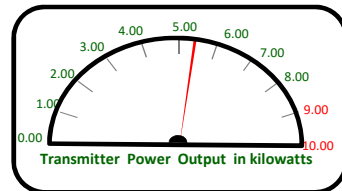
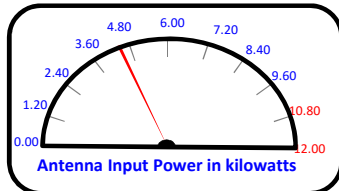


# TPO Calculation Summary

## Main Antenna Operation

**Call letters:** WYHW(FM)  
**City of License:** Carolina Beach, NC  
**Frequency:** CH283C3 (104.5 MHz)  
**File No:** BPH-20141119AAN  
**Facility ID:** 74159  
**Applicant:** Bible Broadcasting Network, Inc.



**Operating Effective Radiated Power (ERP):** 17.0 kW

**Antenna Make:** Systems With Reliability, Inc. (SWR)

**Antenna Model:** FM3/4-DA

**No of Elements:** Four (4)

**Antenna COR AGL:** 120 meters AGL

**Antenna COR AMSL:** 127 meters AMSL

**Max Input Power:** 12.0 kW

**Power Gain:** 3.964

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } 5.981 \text{ dBd}$

**Calculated Antenna Input Power:** 4.289 kW

**Transmitter Make/Model:** Gates Air FAX 10K

**Transmitter Rated Power:** 10.000 kW

### System Loss Info:

Description	Component Make/Model	Length	Loss
1 5/8" Flange Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Tower)	Cablewave HCA158-50J (1 5/8" Air) (0.200 dB/100 ft)	464 ft	-0.928 dBd
1 5/8" Flange Connector	Generic (1@0.02 dB each)		-0.020 dBd
Bird Wattmeter	Bird Thruline Section Model #4715-000		-0.050 dBd
1 5/8" Flange Connector	Generic (1@0.02 dB each)		-0.020 dBd
1 5/8" Elbow Connector	Generic (1@0.02 dB each)		-0.020 dBd

**TOTAL SYSTEM GAIN/LOSS:** 4.92 dBd

$1 / [10^{(4.92/10)}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 5.472 \text{ kW}$