

TPO Calculation Summary

Main Antenna Operation

Call letters: W293CA.C
 City of License: Flint, MI
 Frequency: CH293D (106.5 MHz)
 File No: BMPFT-20140808AAP
 Facility ID: 139039
 Applicant: Christian Broadcasting System, LTD.

Operating Effective Radiated Power (ERP): 0.250 kW

Antenna Make: Propagation Systems Inc.

Antenna Model: FML-1

No of Elements: One (1)

Antenna COR AGL: 87 meters AGL

Antenna COR AMSL: 316 meters AMSL

Power Gain: 0.47

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } -3.279 \text{ dB}$

Calculated Antenna Input Power: 0.532 kW

System Loss Info:

Description	Component Make/Model	Length	Loss
Type N Connector	Generic (1 @0.02 dB each)		-0.020 dB
Antenna Side Jumper	Cellflex 1/2" SCF12-50J (Foam)	(1.020 dB/100 ft) 15 ft	-0.153 dB
Type N to 1 5/8" Coupler	Generic (1 @0.02 dB each)		-0.020 dB
Main Antenna Feedline (Tower)	Andrew 1 5/8" LDF7-50A (Foam)	(0.212 dB/100 ft) 300 ft	-0.636 dB
1 5/8" to Type N Coupler	Generic (1 @0.02 dB each)		-0.020 dB
Transmitter Side Jumper	Cellflex 1/2" SCF12-50J (Foam)	(1.020 dB/100 ft) 10 ft	-0.102 dB
Type N Connector	Generic (1 @0.02 dB each)		-0.020 dB

TOTAL SYSTEM GAIN/LOSS: -4.250 dB

$1 / [10^{(-4.250/10)}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 0.665 \text{ kW}$