

TPO Calculation Summary

Main Antenna Operation

Call letters: W295CT
City of License: Lapeer, MI
Frequency: CH295D (106.9 MHz)
File No: BNPFT-20171201ADV
Facility ID: 201347
Applicant: The Calvary Bible Church of Lapeer

Operating Effective Radiated Power (ERP): 0.250 kW

Antenna Make: ERI

Antenna Model: 100A-1

No of Elements: 1

Antenna COR AGL: 64 meters AGL

Antenna COR AMSL: 308 meters AMSL

Max Input Power: 1.0 kW

Power Gain: 0.42

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain:}$ -3.768 dBd

Calculated Antenna Input Power: 0.595 kW

System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Jumper to Antenna	Andrew FSJ4-50B (1/2" Superflex) (1.010 dB/100 ft)	3 ft	-0.030 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Tower)	RFS LCF-78-50(7/8" foam) (0.361 dB/100 ft)	220 ft	-0.794 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
AM Isocoupler	Kintronics FMC-1.5		-0.200 dBd
Type N End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Ground 1)	RFS LCF-78-50(7/8" foam) (0.361 dB/100 ft)	252 ft	-0.910 dBd

TOTAL SYSTEM GAIN/LOSS: -5.78 dBd

$1 / [10^{(5.78/10)} / \text{ERP}] = \text{CALCULATED TRANSMITTER POWER OUTPUT:}$ 0.946 kW

Munn-Reese

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