

TPO Calculation Summary

Main Antenna Operation

Call letters: W231BR
City of License: Manchester, NH
Frequency: CH231D - 94.1 MHz
File No: Proposed STA Operation
Facility ID: 140894
Applicant: Saga Communications of New England, LLC

Operating Effective Radiated Power (ERP): 0.100 kW

Antenna Make: Scala (as measured by Shively)

Antenna Model: CLFM(Slant45)x2 "Side by Side"

No of Elements: Two (2)

Antenna COR AGL: 18 meters AGL

Antenna COR AMSL: 411 meters AMSL

Power Gain: 8.078

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } 9.073 \text{ dB}$

Calculated Antenna Input Power: 0.012 kW

System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
1/2 Inch End Connector(s)	Generic (2@0.02 dB each)		-0.040 dB
Antenna Jumper Cables	RG8 (2 sections of 15 feet) (1.897 dB/100 ft)	30 ft	-0.569 dB
1/2 Inch End Connector(s)	Generic (2@0.02 dB each)		-0.040 dB
Power Divider	PDL2-55/50 Power Divide (2-way)		-0.500 dB
1/2 Inch End Coupler	Generic (1@0.02 dB each)		-0.020 dB
Main Antenna Feedline	Andrew 1/2" LDF4-50A (Foam) (0.641 dB/100 ft)	92 ft	-0.590 dB
1/2 Inch End Coupler	Generic (1@0.02 dB each)		-0.020 dB
Transmitter Jumper Cable	RG8 (1.897 dB/100 ft)	6 ft	-0.114 dB
7/8 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB

TOTAL SYSTEM GAIN/LOSS: 7.160 dB

$1 / [10^{(7.160 \text{ dB}/10)} / \text{ERP}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 0.019 \text{ kW}$

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