

TPO Calculation Summary

Main Antenna Operation

Call letters: W288CU
City of License: Portland, MI
Frequency: CH288D (105.5 MHz)
File No: License Modification
Facility ID: 150422
Applicant: Saga Communications of New England, LLC.

Operating Effective Radiated Power (ERP): 0.200 kW

Antenna Make: PSI (Propagation Systems, Inc.)
Antenna Model: FMT-4A
No of Elements: Four (4)
Antenna COR AGL: 89 meters AGL
Antenna COR AMSL: 111 meters AMSL
Max Input Power: 2.0 kW
Power Gain: 2.1

Log[power gain]*10 = **Antenna Gain:** 3.222 dB
Calculated Antenna Input Power: 0.095 kW

System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
7/8 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB
Main Antenna Feedline (Tower)	Cellflex LCF78-50JA (7/8" Foam) (0.358 dB/100 ft)	290 ft	-1.038 dB
7/8 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB
AM Isocoupler	Kintronic FMC 1.5 Isolation Transformer		-0.200 dB
7/8 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB
Main Antenna Feedline (Ground)	Cellflex LCF78-50JA (7/8" Foam) (0.358 dB/100 ft)	360 ft	-1.289 dB
7/8 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB
Directional Coupler (RF Monitor)	Shively Model 078F-2P		-0.050 dB
7/8 Inch End plate adapter	Generic (1@0.02 dB each)		-0.020 dB
Quad-plexer Jumper Cable (out)	Andrew FSJ4-50B "Superflex" (1.076 dB/100 ft)	6 ft	-0.065 dB
Type "N" End Connector	Generic (1@0.02 dB each)		-0.020 dB
Quad-plexer/Combiner	Shivley Model 2930-3/4-06 Branched Combiner		-1.400 dB
Type "N" End Connector	Generic (1@0.02 dB each)		-0.020 dB
Quad-plexer Jumper Cable (in)	Andrew FSJ4-50B "Superflex" (1.076 dB/100 ft)	6 ft	-0.065 dB
Type "N" End Connector	Generic (1@0.02 dB each)		-0.020 dB
Transfer Switch	Dow Key Coax Switch Model 412R-320132		-0.150 dB
Type "N" End Connector	Generic (1@0.02 dB each)		-0.020 dB
Transmitter Jumper (out)	LMR-400 (1.300 dB/100 ft)	3 ft	-0.039 dB
Type "N" End Connector	Generic (1@0.02 dB each)		-0.020 dB

TOTAL SYSTEM GAIN/LOSS: -1.273 dB

1 / $[[10^{(dB/10)}/ERP]]$ = **CALCULATED TRANSMITTER POWER OUTPUT:** 0.268 kW