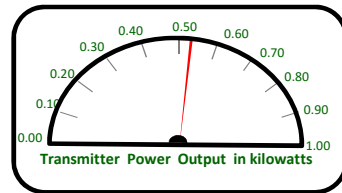
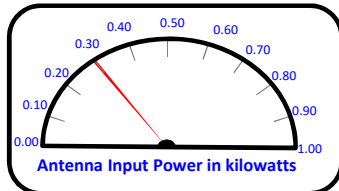


# TPO Calculation Summary

## Main Antenna Operation

**Call letters:** W298CA.CP  
**City of License:** Greenfield, MA  
**Frequency:** CH298D (107.5 MHz)  
**File No:** BPFT-20160129ALS  
**Facility ID:** 25008  
**Applicant:** Saga Communications of New England, LLC



**Operating Effective Radiated Power (ERP):** 0.250 kW

**Antenna Make:** Nicom USA, Inc.  
**Antenna Model:** BKG/77-2(NDA)  
**No of Elements:** Two (2)  
**Antenna COR AGL:** 38 meters AGL  
**Antenna COR AMSL:** 91 meters AMSL  
**Max Input Power:** 1.0 kW  
**Power Gain:** 0.9

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } -0.458 \text{ dBd}$

**Calculated Antenna Input Power:** 0.278 kW  
**Transmitter Make/Model:** GatesAir FAX-1k  
**Transmitter Rated Power:** 1.000 kW

### System Loss Info:

Description	Component Make/Model	Length	Loss
1/2 Inch End Connector(s)	Generic (2@0.02 dB each)		-0.040 dBd
Interbay Antenna Leads	RG-213(foam) (5 feet x 2 leads)	(2.000 dB/100 ft) 10 ft	-0.200 dBd
1/2 Inch End Connector(s)	Generic (2@0.02 dB each)		-0.040 dBd
Interbay Power Divide	Nicom Series BAC2N		-0.300 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Tower)	Cablewave LCF78 7/8 Foam	(0.358 dB/100 ft) 114 ft	-0.408 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Isocoupler	Kintronics Isocoil Model #FMC-1.5		-0.100 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Ground)	Times Microwave LMR400 RG-8	(1.230 dB/100 ft) 120 ft	-1.476 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Transmitter Side Jumper	Andrew LDF4-50A (1/2" Foam)	(0.680 dB/100 ft) 25 ft	-0.170 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd

**TOTAL SYSTEM GAIN/LOSS:** -3.31 dBd

$1 / [10^{(\text{dB}/10)/\text{ERP}}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 0.536 \text{ kW}$