

TPO Calculation Summary

Main Antenna Operation

Call letters: K278CI.CP
City of License: York, NE
Frequency: CH278D (103.5 MHz)
File No: BPFT-20160129AFT
Facility ID: 142186
Applicant: Nebraska Rural Radio Association

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: 79 meters AGL
Antenna COR AMSL: 579 meters AMSL
Max Input Power: 1.0 kW
Power Gain: 0.9

Log[power gain]*10 = Antenna Gain: -0.458 dBd
Calculated Antenna Input Power: 0.278 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 to 7/8 End Flange	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Tower)	RFS LCF78-50JA-A0 (7/8" Foam) (0.358 dB/100 ft)	255 ft	-0.913 dBd
7/8 Inch to 1/2 Flange	Generic (1@0.02 dB each)		-0.020 dBd
Isocoupler Jumper (1)	Superflex FSJ4-50BS (1/2" Foam) (1.065 dB/100 ft)	3 ft	-0.032 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Isocoupler	Kintronics FMC 1.5 Isocoupler		-0.200 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd
Isocoupler Jumper (2)	Superflex FSJ4-50BS (1/2" Foam) (1.065 dB/100 ft)	3 ft	-0.032 dBd
1/2 Inch to 7/8 Inch Flange	Generic (1@0.02 dB each)		-0.020 dBd
Main Feedline (Ground)	RFS LCF78-50JA-A0 (7/8" Foam) (0.358 dB/100 ft)	30 ft	-0.107 dBd
7/8 Inch to 1/2 Inch Flange	Generic (1@0.02 dB each)		-0.020 dBd
Transmitter Jumper (1)	Superflex FSJ4-50BS (1/2" Foam) (1.065 dB/100 ft)	6 ft	-0.064 dBd
1/2 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dBd

TOTAL SYSTEM GAIN/LOSS: -2.53 dBd

$1 / [10^{(-2.53/10)}] =$ **CALCULATED TRANSMITTER POWER OUTPUT:** 0.447 kW