

TPO Calculation Summary

Main Antenna Operation

Call letters: K273DJ
 City of License: West Fargo, ND
 Frequency: 273 (102.5 MHz)
 File No: BMPFT-20180418ACA
 Facility ID: 202255
 Applicant: University of Northwestern-St Paul

Operating Effective Radiated Power (ERP): 0.250 kW

Antenna Make: Jampro
 Antenna Model: JMVP-2R
 No of Elements: 2
 Antenna COR AGL: 58 meters AGL
 Antenna COR AMSL: 334 meters AMSL
 Power Gain: 2

Log[power gain]*10 = Antenna Gain: 3.010 dBd
 Calculated Antenna Input Power: 0.125 kW

System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
Type N End Connector	Generic (8@0.02 dB each)		-0.160 dBd
Main Feedline (Tower)	Andrew HJ7-50A (1-5/8" heliax)	(0.206 dB/100 ft) 179 ft	-0.368 dBd
AM Isocoupler	ERI Model 404		-0.200 dBd
Main Feedline (Tower)	Andrew HJ7-50A (1-5/8" heliax)	(0.206 dB/100 ft) 45 ft	-0.093 dBd
Gas Barrer	Andrew O1BN 1-5/8"		-0.050 dBd
Main Feedline (Ground 1)	Andrew HJ5-50(7/8" foam heliax)	(0.374 dB/100 ft) 22 ft	-0.082 dBd
Jumper	Andrew FSJ4-50B (1/2" Superflex)	(1.051 dB/100 ft) 3 ft	-0.032 dBd

TOTAL SYSTEM GAIN/LOSS: 2.03 dBd
 $1 / [10^{(2.03 \text{ dBd}/10)} / \text{ERP}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 0.157 \text{ kW}$

Munn-Reese
 Broadcast Engineering Consultants
 Coldwater, MI 49036