

# TPO Calculation Summary

## Main Antenna Operation

Call letters: **WVIC(FM)**  
City of License: **Jackson, MI**  
Frequency: **CH231B (94.1 MHz)**  
File No: **BLH-19830711AJ (Pending Modification)**  
Facility ID: **55658**  
Applicant: **Midwest Communications, Inc.**

Operating Effective Radiated Power (ERP): **40.000 kW**

### ANTENNA INFO

Antenna Make: **ERI, Inc.**  
Antenna Model: **SHPX-5AE**  
No of Elements: **Five (5)**  
Antenna COR AGL: **143 meters AGL**  
Antenna COR AMSL: **454 meters AMSL**  
Max Input Power: **1.000 kW**  
Power Gain: **2.7154**  
 $\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } 4.338 \text{ dB}$   
Calculated Antenna Input Power: **14.731 kW**

### System Loss Info:

<u>Description</u>	<u>Component Make/Model</u>	<u>Length</u>	<u>Loss</u>
3 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB
System Feedline (total)	Andrew 3" HJ8-50B (0.140 dB/100 ft)	465 ft	-0.651 dB
3 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB
4 Port Dielectric 3" Switch (50 kW)	DC 60000-300 Series		-0.100 dB
3 Inch End Connector	Generic (1@0.02 dB each)		-0.020 dB

**TOTAL SYSTEM GAIN/LOSS: 3.527 dB**  
 $1 / [[10^{(3.527/10)}] / \text{ERP}] = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 17.755 \text{ kW}$

**Munn-Reese, Inc.**

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