

TPO Calculation Summary

Main Antenna Operation

Call letters: KISM(FM)
City of License: Bellingham, WA
Frequency: CH225C - 92.9 MHz
File No: Not Filed Yet
Facility ID: 34469
Applicant: Saga Broadcasting, LLC

Operating Effective Radiated Power (ERP): 50.000 kW

Antenna Make: Shively Labs, Inc.
Antenna Model: 6810-6
No of Elements: six (6)
Antenna COR AGL: 103 meters AGL
Antenna COR AMSL: 787 meters AMSL
Max Input Power: 40.0 kW
Power Gain: 3.28

$\text{Log}[\text{power gain}] * 10 = \text{Antenna Gain: } 5.159 \text{ dB}$

Calculated Antenna Input Power: 15.244 kW

System Loss Info:

Description	Component Make/Model		Length	Loss
Antenna Feedline (Tower Portion)	Andrew 3" HJ8-50B (Air)	(0.139 dB/100 ft)	338 ft	-0.470 dB
Antenna Feedline (Ground Portion)	Andrew 3" HJ8-50B (Air)	(0.139 dB/100 ft)	12 ft	-0.017 dB
Hardline Section(s) (Total)	Dielectric 3" Ridged (or equivalent)	(0.096 dB/100 ft)	28 ft	-0.027 dB
Wattmeter Line Section	Coaxial Dynamics Part No. 88516D			-0.050 dB
Gas Block Fitting	Comscope (Andrew) part H8FB-302 (or equivalent)			-0.050 dB
automatic switch	Dielctric 3 1/8" DC 60000-300 Series			-0.100 dB
3 Inch End Connector(s)	Generic (10@0.01 dB each)			-0.100 dB
3 inch Elbow Connector(s)	Generic (4@0.01 dB each)			-0.040 dB

TOTAL SYSTEM GAIN/LOSS: 4.305 dB

$1 / [10^{(4.305 \text{ dB}/10)}] \text{ ERP} = \text{CALCULATED TRANSMITTER POWER OUTPUT: } 18.553 \text{ kW}$

Munn-Reese, Inc.

Broadcast Engineering Consultants

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