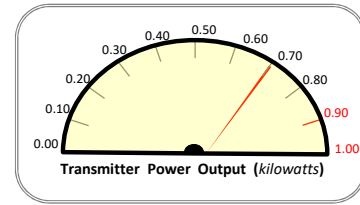


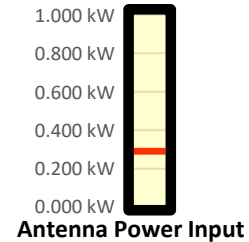
Transmitter Power Output Worksheet

Call letters: WNAX-FM Auxiliary (License Modification)
City of License: Yankton, SD
Channel: CH281C1 (104.1 MHz)
File No: BXLH-20180831AAK
Facility ID: 57839
Applicant: Saga Communications of South Dakota, LLC



Effective Radiated Power (ERP): 0.255 kW

Antenna Make: Nicom USA, Inc. (NIC)
Antenna Model: BKG77/2 (NDA)
No of Elements: Two (2)
Antenna COR AGL: 279 meters AGL
Antenna COR AMSL: 636 meters AMSL
Max Input Power: 1.00 kW



Power Gain: 0.9

Antenna Gain: -0.458 dBd

Calculated Antenna Input Power: 0.283 kW

Transmitter Rated Power: 1.000 kW

Transmitter Make/Model: GatesAir FAX-1K

Power Gain to Antenna gain (dBd) Conversion:
 $=\text{Log}[\text{power gain}] * 10$

Inventory of System / Insertion Losses

Explanation	Component Make/Model	Length	Loss
Typical End Connector(s)	Generic (2@0.02 dB each)	n/a	-0.040 dBd
Interbay Antenna Leads	RG-213(foam) (10 ft x 2 leads) (2.000 dB/100 ft)	20 ft	-0.400 dBd
Typical End Connector(s)	Generic (2@0.02 dB each)	n/a	-0.040 dBd
Interbay Power Divide	Nicom Series BAC2N	n/a	-0.300 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd
1 5/8" Foam Feedline	Andrew AVA7-50 (0.205 dB/100 ft)	912 ft	-1.870 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd
AM Isocoil	Kintonics ISO-100-FM	n/a	-0.400 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd
7/8" Foam Feedline	Andrew AVA5-50FX (0.368 dB/100 ft)	20 ft	-0.074 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd
Jumper to Combiner	SCF12-50JFN (Superflex) (1.020 dB/100 ft)	6 ft	-0.061 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd
Combiner	Nicom TFST1000 Starpoint Triplexer	n/a	-0.550 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd
Jumper to Transmitter	SCF12-50JFN (Superflex) (1.020 dB/100 ft)	6 ft	-0.061 dBd
Typical End Connector	Generic (1@0.02 dB each)	n/a	-0.020 dBd

TOTAL SYSTEM GAIN/LOSS: -4.39 dBd

CALCULATED TRANSMITTER POWER OUTPUT: 0.701 kW

$(1 / [10^{(4.39/10)}])$