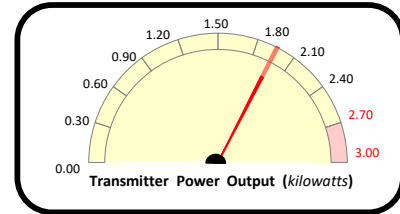


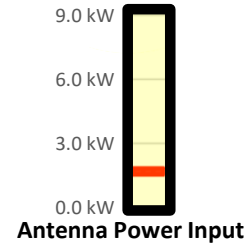
# Transmitter Power Output Worksheet

**Call letters:** WHAI (FM) .C  
**City of License:** Greenfield, MA  
**Channel:** CH252A (98.3 MHz)  
**File No:** LMS-0000116550  
**Facility ID:** 25833  
**Applicant:** Saga Communications of New England, LLC



**Effective Radiated Power (ERP):** 2.400 kW

**Antenna Make:** Electronics Research Inc. (ERI)  
**Antenna Model:** LPX-3E-SP  
**No of Elements:** Three (3)  
**Antenna COR AGL:** 31.0 meters AGL  
**Antenna COR AMSL:** 323.5 meters AGL  
**Max Input Power:** 9.000 kW



**Power Gain:** 1.559  
**Antenna Gain:** 1.928 dBd  
**Calculated Antenna Input Power:** 1.539 kW  
**Transmitter Rated Power:** 3.000 kW  
**Transmitter Make/Model:** GatesAir FAX3K

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

## Inventory of System / Insertion Losses

| Explanation                      | Component Make/Model                        | Length | Loss       |
|----------------------------------|---|--------|------------|
| 1 5/8 Inch Elbow(s)              | Myat Part No. 201-025(2@0.02 dB each)       | n/a    | -0.040 dBd |
| Main Feedline #1 (1 5/8" air)    | 1 5/8" ERI Rigid (0.190 dB/100 ft)          | 77 ft  | -0.146 dBd |
| Typical Line Coupler             | Generic (1@0.02 dB each)                    | n/a    | -0.020 dBd |
| Main Feedline #2 (1 5/8" air)    | Air Heliax HJ7-50A (0.203 dB/100 ft)        | 50 ft  | -0.102 dBd |
| Directional Coupler              | ERI "CD227" Two-Port Directional Coupler    | n/a    | -0.050 dBd |
| Combiner                         | ERI "935 and 938" Series Tee Combiner       | n/a    | -0.405 dBd |
| Directional Coupler              | ERI "CD237" Single-Port Directional Coupler | n/a    | -0.050 dBd |
| 1 5/8 Inch Elbow                 | Myat Part No. 201-025(1@0.02 dB each)       | n/a    | -0.020 dBd |
| Jumper Section #1 (1 5/8" Rigid) | 1 5/8" Myat Rigid (0.190 dB/100 ft)         | 3 ft   | -0.006 dBd |
| Transfer Switch                  | Myat Series 201-180 Coaxial Transfer Switch | n/a    | -0.100 dBd |
| 1 5/8 Inch Elbow                 | Myat Part No. 201-025(1@0.02 dB each)       | n/a    | -0.020 dBd |
| Jumper Section #2 (1 5/8" Rigid) | 1 5/8" Myat Rigid (0.190 dB/100 ft)         | 7 ft   | -0.013 dBd |
| 1 5/8 Inch Elbow                 | Myat Part No. 201-025(1@0.02 dB each)       | n/a    | -0.020 dBd |
| Jumper Section #3 (1 5/8" Rigid) | 1 5/8" Myat Rigid (0.190 dB/100 ft)         | 3 ft   | -0.006 dBd |
| 1 5/8 Inch Elbow                 | Myat Part No. 201-025(1@0.02 dB each)       | n/a    | -0.020 dBd |
| 7/16 DIN to 1 5/8" EIA Adapter   | Generic (1@0.02 dB each)                    | n/a    | -0.020 dBd |
|                                  |   |        |            |
|                                  |   |        |            |

**TOTAL SYSTEM GAIN/LOSS:** 0.89 dBd  
**CALCULATED TRANSMITTER POWER OUTPUT:** 1.955 kW  
 $(1 / [10^{(0.89/10)}])$