

# TEST REPORT

## TEST DATA:

### Radiated Spurious Emissions

<u>Received Frequency</u>	<u>Received Level</u>	<u>Relative</u>
860 MHz	-1 dBm	0 dB
1720 MHz	-62 dBm	-61 dB
2580 MHz	-67 dBm	-66 dB
3440 MHz	-72 dBm	-71 dB
4300 MHz	-85 dBm	-84 dB
5160 MHz	-79 dBm	-78 dB
6020 MHz	-89 dBm	-88 dB
6800 MHz and higher	Not detected	Not detected

Signals are referenced to absolute received power levels in dBm at 50 ohms. Relative levels are referenced to the received fundamental power level.

Amplifier was operated into a dummy load for the radiated tests. Reference level was determined as follows 15 mW into 1/2 wave antenna at 860 MHz Received level was -31 dBm. If 15 watts had been transmitted, the signal would have been 30 dB higher, or -1 dBm.

Harmonics were received with 1/2 wave dipole cut to harmonic frequency. Antennas were moved vertically until a maximum reading was found.

*Conclusion. All radiated harmonics were less than -60 dB below the radiated carrier at 15 watts output.*

## **Requirement of External Power Amplifiers Per Parts 97 and 2.1005**

Measured harmonic levels operated at 860 MHz:

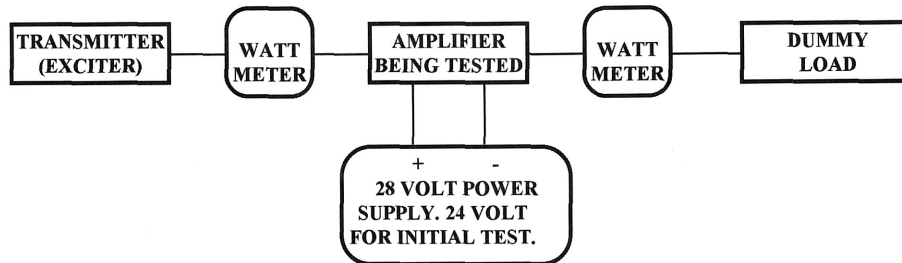
<u><b>Harmonic</b></u>	<u><b>Measured Level</b></u>
2 <sup>nd</sup> 1720 MHz	-72 dBc
3 <sup>rd</sup> 2580 MHz	-75 dBc
4 <sup>th</sup> 3440 MHz	Not detected >80 dBc

**Next Page is the Test Set Up.**

## SECTION 3.0

## INSTALLATION INSTRUCTIONS:

### 1. BLOCK DIAGRAM:



### 2. EQUIPMENT NEEDED:

1. Exciter
2. Watt meters (2) with slugs for full scale readings
3. Power Supply (28 VOLT)
4. Dummy Load
5. Short coaxial cables ( RG-8 or better ) with appropriate connectors or adapters.
6. DC ammeter
7. DC voltmeter

### 3. INSTRUCTIONS:

1. Mount equipment in permanent location. Operate the amplifier at 24 volts into a dummy load for initial tests.
2. The amplifier is of fixed gain design. In order to obtain a given output power (e.g., exactly 100 watts) the input or drive power must be adjusted. The factory test input / output powers are shown on the serial number plate for your particular amplifier.
3. You must measure input power, output power, DC voltage, and DC current draw and verify that all are within specifications . If you do not measure one of these parameters, you have not done a proper installation.
4. After proper operation into the dummy load is assured, connect the amplifier to the installation load (antenna, combiner, etc.) The output power and DC current draw should not change significantly. If it does, a load SWR problem exists and must be corrected.

Remember the specification output power is obtained only at 28 volts. Initial tests at 24 volts will result in lower output powers than at 28 volts. A reduction in drive power from the value set at 24 volts will be required when the voltage is increased. Otherwise, higher than rated output power will result.