

# Qualifier X-Ray VMD

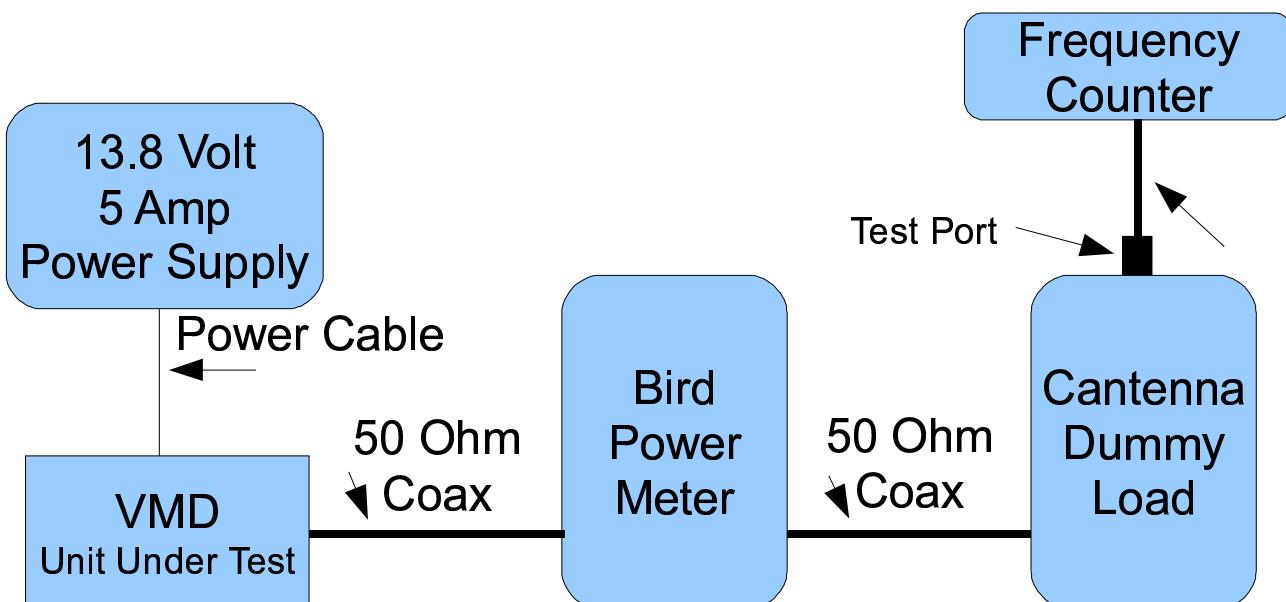
## Tune Up Procedure

v1.0

### Required Test Equipment

- 1) Regulated 13.8 volt power supply with a 5 amp current capability.
- 2) VMD Power Cable
- 3) Bird Thru-Line Power Meter with 5 Watt measurement slug covering the 27MHz frequency range.
- 4) 50 Ohm Dummy Load (Cantenna, or equivalent)
- 5) Spectrum Analyzer
- 6) Frequency Counter
- 7) Volt Meter
- 8) 10dB in-line attenuator pad
- 9) 50 Coax interconnecting cables
- 10) Test firmware installed in the VMD

### Connection Diagram 1

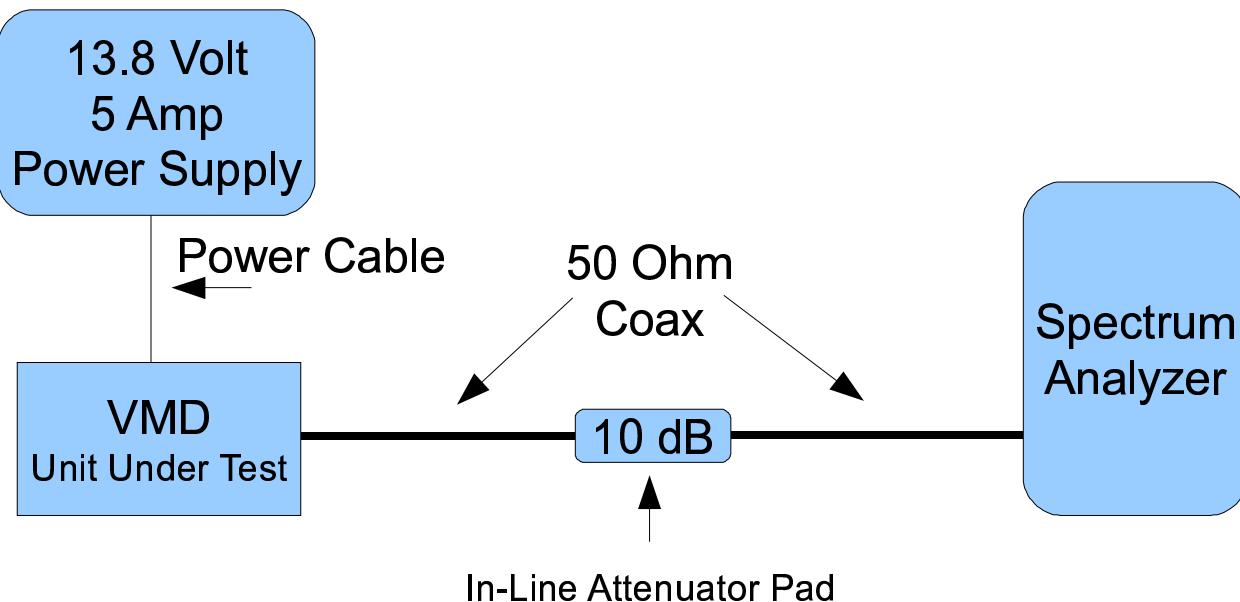


## Test Procedure - Board Level

Connect the unit according to “Connection Diagram 1”.

1. Turn the VMD's power switch to the ON position. The unit will transmit for approximately 1 second every 4 seconds.
2. Using the front panel push button switch, place the unit on frequency 1.
3. Ensure the power output level is at least 3.5 watts and no more than 5 watts on the Bird Power Meter.
4. Ensure the output frequency is within 20ppm.
5. Measure the voltage at R14 and C37. It should be greater than 1 volt and less than 4 volts.
6. Using the front panel push button switch, place the unit on frequency 3.
7. Ensure the power output level is at least 3.5 watts and no more than 5 watts on the Bird Power Meter.
8. Ensure the output frequency is within 20ppm.
9. Measure the voltage at R14 and C37. It should be greater than 1 volt and less than 4 volts.
10. Install the production firmware into the VMD unit.
11. Turn power off to the VMD unit.

## Connection Diagram 2



## Test Procedure - Top Level

Connect the unit according to “Connection Diagram 2”.

- 1) Turn power ON to the VMD unit.
- 2) Set the spectrum as follows:
  1. Start Frequency 0 Mhz
  2. Stop Frequency 300 Mhz
- 3) Turn power ON to VMD and observe the spectrum analyzer.
- 4) Adjust the spectrum analyzer's attenuator to place the VMD fundamental signal at the top reference line.
- 5) All spurious emissions should be at least 50dB below the fundamental.