

# **G7**

## **LABORATORY TESTING PROCEDURES**

### **UNIT TEST - (UNIT ASSEMBLED)**

#### **TEST PREPARATION**

- 1) Install 4 “AA” alkaline batteries (observe polarity markings).
  - Left bottom terminal is the system plus polarity
  - Right upper terminal is the system minus polarity.
- 2) Turn on unit by pressing the power button.

#### **SYSTEM TEST**

- 1) Radiated Transmit and Receive performance may be observed.
- 2) Audio out & Audio in are available at the Headset jack.

### **LABORATORY TEST - (UNIT UN-ASSEMBLED)**

#### **TEST PREPARATION**

- 1) Disassemble unit (4 screws – 3 behind batteries). Remove the PCB from the cabinet.
- 2) Remove the antenna and install a 50 ohm coax cable in its place.
- 3) Either clip alligator leads or solder test leads to the power supply connections. The positive terminal is the lower left PCB mounting hole. The negative terminal is the lower right PCB mounting hole top of the 20.95MHz X-tal. (battery side view)
- 4) Connect 6VDC power source to the terminals, observing correct polarity.
- 5) Connect an 8-ohm load through the Headset jack (3.5mm mono-phone plug).
- 6) Connect a audio generator with 10uF coupling capacitor through the Headset jack ( 2.5mm mono-phone plug).
- 7) Select desired channels using CH up/down keypad switch. The rubber keypad may be removed from the front cabinet and used directly on the PCB.

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## **LABORATORY TESTING PROCEDURES**

### **SPECIFIC TEST METHODS AND GUIDANCE**

#### **Modulation Characteristics**

##### **FOR TX AUDIO FILTER RESPONSE**

1. Connect audio generator with 10uF coupling capacitor to microphone input jack. Press PTT button.
2. Connect RF output with modulation meter. (Filters of modulation meter should be set to a 50Hz to 15KHz.)
3. Adjust audio generator about 1-3mVrms for 0.75KHz modulation.
4. While transmitting, sweep generator and note measurement.
5. Please compensate the back-ground noise level.

#### **Modulation Characteristics**

##### **FOR TX AUDIO LOW PASS FILTER RESPONSE.**

1. Connect audio generator with 10uF coupling capacitor to microphone input jack. Press PTT button.
2. Connect AC voltmeter or other test equipment via jumper wire to TP-9.
3. Adjust audio generator for 100mV.
4. While transmitting, sweep generator and note measurement.

#### **Occupied Bandwidth**

1. Connect an audio frequency sweep generator with 10uF coupling capacitor to microphone input jack.
2. Adjust audio generator to a frequency of 2500Hz and a level of 100mV rms (+16dB above 10-12mV).
3. With a spectrum analyzer, transmit the radio and monitor the transmitter through an antenna.
4. Note required measurements.