PWM1000 Circuit Description

PWM1000 is consist of PRX1000 and PTX1000，PTX1000 is used to receive the VHF band (136~174MHz) tone command signal from PRX1000, it will decode the signal to send the voice or tone signal with FM UHF band (440~470MHz) by PRX1000 command.

1. Receiver circuit

     1.1 Antenna band pass circuit

     The LC band pass filter is including L9, LT1, L4 & L1 which connect between antenna & U1 pin 15.

     1.2 RF chip circuit

     U1 is intergrade chip which be including the mixer, VCO, PLL, AFC, AGC, RSSI, SQ, Tone encoder & decoder circuit.

2. Transmit circuit

     2.1 Audio signal /Tone command

     MIC will pick up audio signal & connect to U2 pin11 through Jack1, CV1, RT1 & CV2, the tone command will generator by U2 chip to do the FM modulation by U2 also.

     2.1 RF chip circuit

     U2 is intergrade chip which be including the mixer, VCO, PLL, AFC, AGC, RSSI, SQ, Tone encoder & decoder circuit. It will provide the RF signal, through QT6, QT5 amplifier & low pass filter circuit (LA1, LA2, LA3 & LA4) to the antenna.

3. Reference OSC circuit

     The X4 is VCTCXO module which be used to generate 26MHz reference clock signal, it will be fine tuning by U3 & use to control U1, U2.

4. System power supply circuit

     The power supply come from 3.7VDC battery pack, the IC1 chip is 3VDC voltage regulator which use for U1 & U2 power supply. The IC2 is 2.8VDC voltage regulator which use for MCU(U3）power supply.

5. Charging circuit

     The J1 USB connector is used to connect external 5VDC to charge the battery through IC3, LED4 is charging indicator.