Technical Description

Model: 80078TX
Description: Covert Ops Ultra Tuff Video Recon Bot
Frequency: 2410 – 2473MHz

The brief circuit description is listed as follows:

The Equipment Under Test (EUT) is a portable 2.4GHz transceiver (i.e. Controller) for a RC toy Video Recon Car. The EUT is powered by DC6.0V (4 X 1.5V) AA batteries. It is designed to operate frequency hopping system in 2410 – 2473MHz with 16 frequency hopping channels when communication with corresponding transceiver (i.e. RC Video Recon Car).

The EUT has 5 control buttons, an ON/OFF switch and a display (can see the instant video from the camera on the Video Recon Car). The 2 buttons on the left hand side are used to control the RC Video Recon moving forward/backward. The other 2 buttons on the right hand side are used to control the RC Video Recon Car turning left/right. There is a button on the upper right hand corner is used to turn the RC Video Recon Car 360 degree.

16 frequency hopping channels are shown as below;

2410MHz	2415MHz	2420MHz	2425MHz	2429MHz	2430MHz
2434MHz	2435MHz	2439MHz	2445MHz	2449MHz	2454MHz
2459MHz	2464MHz	2469MHz	2473MHz		

Antenna gain: 0dBi
Nominal rated field strength: 100.7dBμV/m at 3m
Maximum allowed field strength of production tolerance: +/- 3dB

CWDP125 (IC4) --- included A7125

The CWDP125B-D2B module is designed for 2.4GHz ISM band with10dBm output power wireless applications using AMICCOM's A7125 FSK transceiver. This module features a fully programmable frequency synthesizer by SPI. The data rate is 2Mbps.

A7125 is a high performance and low cost 2.4GHz ISM band wireless transceiver. It integrates high sensitivity receiver, high efficiency power amplifier, frequency synthesizer and baseband modem.

For package handling, A7125 has built-in separated 64 bytess TX/RX FIFO for data buffering and burst transmission, CRC for error detection, FEC for 1-bit data correction per code word, RSSI for clear channel assessment, data whitening for data encryption/decryption, thermal sensor for monitoring relative temperature, one channel 8-bits ADC for sensing external analog voltage, TWWS function for MCU wakeup. Those

functions are very easy to use while developing a wireless system. All features are integrated in a small QFN 4x4 20 pins package.

JL288 (IC1)
It is a video codec chipis a true single chip solution for digital video/audio applications.
The key building blocks of this chip are: high performance motion JPEG and audio u-law codec, VCL for flexible sensor interface, ADC, DAC and amplifier for audio IOs, 3 LDO to simplify power circuit, 18/16/8 bit LCD module interface, built-in power on save mode RTC, SD card, and USB 1.1 interface that is fully compatible with SDHC and supports USB mass storage class driver.
In additional to the highly integrated functions and superior quality, this chip has video buffers fully integrated to avoid external SRAM/SDRAM buffers. It achieves the lowest power consumption comparing with other competitors and makes it the most attractive solution for battery-powered portable applications.

FP6206 (IC3)
Voltage Regulator

25L4006 (U1)
Flash memory