# Technical Description

Model: 80078RX
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 (a RC toy Video Recon with camera). 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 physical frequency channels when communication with corresponding transceiver (i.e. Controller). After Switched ON and pairing with controller, the EUT can be controlled to moving forward, backward, left and right. Also the instant video can be transferred to the controller.

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: 98.7dBμV/m at 3m
Maximum allowed field strength of production tolerance: +/- 3dB

**CWDP125 (IC5) --- 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.

FCC ID: OTA80078RX
IC: 7783A-80078RX

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 (IC6), and FP6211 (IC4)**
Voltage Regulator

**25L4006 (IC2)**
Flash memory

**ST4606 (IC7 to IC10)**
Control the motor driver

**SX7162A (IC3)**
CMOS sensor