Technical Description

The Equipment Under Test (EUT) is a portable 2.4GHz and Wi-Fi Transceiver (Drone Unit) for a Video Drone.

For Wi-Fi portion, the Equipment Under Test (EUT) operates at frequency range of 2412MHz to 2462MHz with 11 channels. For 2.4GHz Portion, it operates at frequency range of 2449MHz to 2479MHz with 30 channels, the channels are shown in below table.

2449	**2450**	**2451**	**2452**	**2453**
2454	**2455**	**2456**	**2457**	**2458**
2459	**2460**	**2461**	**2462**	**2463**
2464	**2465**	**2466**	**2467**	**2468**
2469	**2470**	**2471**	**2472**	**2473**
2474	**2475**	**2476**	**2477**	**2479**

The EUT is powered by 1 x 3.7V LiPo battery. After switching on the EUT, the drone will undergo different movement based on the switches pressed in the controller. It can be paired up with a smartphone and the real time display of the camera on the drone will be transmitted to a mobile app for photo and video taking function.

2.4GHz portion

Antenna Type: Internal, integral
Antenna Gain: 0dBi
Nominal Peak Conducted Power: -33.8dBm
Range of Peak Conducted Power: -36.8dBm to -30.8dBm

WiFi portion

Operating Mode	Nominal Conducted Power	Range of Peak Conducted Power
802.11b	14.1dBm	11.1dBm to 17.1dBm
802.11g	13.2dBm	10.2dBm to 16.2dBm
802.11n (HT20)	12.8dBm	9.8dBm to 15.8dBm

An internal, integral antenna has been used.
Antenna Gain: 3.85dBi

The brief circuit description is listed as follows:

For 2.4GHz portion:

1. U1 (PAN7420) acts as MCU
2. Y1 acts as 16MHz Oscillator
3. C16 acts as antenna matching circuit
4. U2 (6206) acts as voltage regulator
5. U3 (G3) acts as barometer of
6. U4 (42627) acts as gyroscope
7. IC1 and IC2 act as motor driver

For Wi-Fi portion:

1. U1 (XR872AT) acts as MCU
2. Y1 acts as 40MHz Oscillator
3. U2 (W25Q80) acts as SPI Flash
4. U3 (RY3710) acts as voltage regulator.