

## Technical Description:

The Equipment Under Test (EUT) is a plug and play replaceable 2.4GHz RF transceiver module for the remote control helicopter or plane. The EUT operates at frequency range from 2404MHz to 2479MHz with 3MHz channel spacing. The 2.4GHz RF module is powered by a 4.8V rechargeable battery pack. The EUT has a one set battery/data input pin and four sets signal pins which are connect with battery pack with sensor and connect with servo motor respectively. After switch on the EUT and paired up with the corresponding controller (transceiver), the servo motor of EUT can be controlled to run in different speed. Also, the information of temperature can be detected by sensor, then the EUT can collect data and send them back to the corresponding controller.

### 2.4GHz RF transceiver Module:

**Modulation Type: OQPSK**

**Frequency Range: 2404MHz - 2479MHz, 3MHz channel spacing, 26 channels**

**Antenna Type: Integral, External (wire Antenna)**

**Antenna Gain: 2.14dBi**

**Nominal rated field strength: 88.7BμV/m at 3m**

**Maximum allowed field strength of production tolerance: +/-5dB**

Frequency Table

| Channel Number | Frequency [MHz] |
|----------------|-----------------|
| 1              | 2404            |
| 2              | 2407            |
| 3              | 2410            |
| 4              | 2413            |
| 5              | 2416            |
| 6              | 2419            |
| 7              | 2422            |
| 8              | 2425            |
| 9              | 2428            |
| 10             | 2431            |
| 11             | 2434            |
| 12             | 2437            |
| 13             | 2440            |
| 14             | 2443            |
| 15             | 2446            |
| 16             | 2449            |
| 17             | 2452            |
| 18             | 2455            |
| 19             | 2458            |
| 20             | 2461            |
| 21             | 2464            |
| 22             | 2467            |
| 23             | 2470            |
| 24             | 2473            |
| 25             | 2476            |
| 26             | 2479            |

**2.4GHz RF module:**

- i) IC3 acts as the 2.4GHz RF transceiver.
- ii) The 32MHz crystal (XTAL1) provides system clock for CC2520 (IC3)
- iii) U1 acts as hybrid Baluns
- iv) IC1 acts as MCU
- v) IC2 acts as voltage regulator
- vi) IC4 & IC5 acts SPDT switch
- vii) IC5 acts as a power amplifier
- viii) F1 acts as Band pass filter