

## Technical Description

The Equipment Under Test (EUT), is a portable Composite Device (Turret Unit) which contains a 2.4GHz Transceiver and a 2Mbps BLE Transceiver. For the 2.4GHz portion, the sample supplied operated on 29 channels, normally at 2440 - 2468MHz. The channels are separated with 1MHz spacing. For the BLE portion, the sample supplied operated on 40 channels, normally at 2402 - 2480MHz. The channels are separated with 2MHz spacing.

The EUT is powered by 1 x 7.4V Lithium-ion battery. After switching on the EUT, the EUT, the turret can be paired up with the controller. The turret will undergo automatic shooting action with different angle based on the switches pressed in the controller. The turret can be further paired up with a smartphone together with other external units to play different shooting game. The 2.4GHz portion will be disabled while the BLE portion will keep on functioning when the EUT is charging.

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Maximum allowed production tolerance: +/- 3dB

### 2.4GHz Portion

Nominal rated field strength is 89.7dB $\mu$ V/m at 3m (Peak), 63.7dB $\mu$ V/m at 3m (Average)

### Bluetooth BLE Portion

Nominal rated field strength is 91.3dB $\mu$ V/m at 3m (Peak), 69.0dB $\mu$ V/m at 3m (Average)

The brief circuit description is listed as follows:

1. U1 (AC6321A) acts as BLE MCU
2. IC1 (PAN186) acts as 2.4GHz MCU
3. Y1 acts as 16MHz Oscillator
4. Y2 acts as 24MHz Oscillator
5. L1, C1 and C4 act as antenna matching circuit of ANT1
6. C8, C9 and R44 act as antenna matching circuit of ANT2
7. IC2 provides boost charge function
8. U2 and U3 provide constant current charge function
9. U4 and U6 provides LDO function
10. U5 provides LDO function for servo motor
11. Q5 and Q9 act as large motor driver.