

## Technical Description

The Equipment Under Test (EUT) is a Professor Einstein with Wi-Fi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing. The EUT is powered by two rechargeable batteries (DC 4.8V) which can be charged by adaptor. For more detailed features description, please refer to the user's manual.

Channel List: (2.4GHz band: Wifi)

|      |      |      |      |      |      |
|------|------|------|------|------|------|
| 2412 | 2417 | 2422 | 2427 | 2432 | 2437 |
| 2442 | 2447 | 2452 | 2457 | 2462 |      |

2.4GHz band: Wifi

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

Modulation Type: CCK, BPSK, QPSK, 16QAM, 64QAM

The normal conducted output power of 802.11b is: 11.0dBm (tolerance: +/- 1dB).

The normal conducted output power of 802.11g/n is 17.0dBm (tolerance: +/- 1dB).

The function of main IC is mentioned as below.

Einstein Main:

U1: Multimedia Processor.

Y1 is 32.768KHz OSC and Y2 is 12MHz OSC for U1.

U2: Boot IC.

U3: Audio Power Amplifier. U4:

2G-bit NAND Flash Memory. U5:

LDO Regulator. U6: Positive

Voltage Regulator. U7: WIFI

Module.

U8: Positive Voltage Regulator. U9:

CMOS Camera.

MOTOR CONTROL UNIT:

U9: Motor Driver.

U11: Motor Driver.

U12: Motor Driver.

U13: Motor Driver.

U3: U8 Chip On Board.

Einstein\_Motor COB:

U8: 16bit MCU With OTP.

Y3 is 32.768KHz OSC for U8.

Einstein(HEAD PCB)

U14: Motor Driver.

U15: 8bit MCU With EEPROM.

U16: Motor Driver.

U17: 8bit MCU With EEPROM.

U18: Motor Driver.

U19: Motor Driver.

U20: Motor Driver.

U7: Quad Operational Amplifiers.

WIFI Module:

U1 is RF transmitter IC.

X1 is 40MHz OSC for U1.

#### Power Setting

| Mode    | Power Setting | Target Power (dBm) | Tolerance (dBm) |
|---------|---------------|--------------------|-----------------|
| 802.11b |               |                    |                 |
| 1       | 38            | 11                 | (-1.0,+1.0)     |
| 6       | 38            |                    |                 |
| 11      | 38            |                    |                 |
| 802.11g |               |                    |                 |
| 1       | 49            | 17                 | (-1.0,+1.0)     |
| 6       | 51            |                    |                 |
| 11      | 49            |                    |                 |
| 802.11n |               |                    |                 |
| 1       | 49            | 17                 | (-1.0,+1.0)     |
| 6       | 51            |                    |                 |
| 11      | 49            |                    |                 |