

RF Exposure Evaluation

FCC ID: P96WF76RL

1. Client Information

Applicant : HUIZHOU TCL KING HIGH FREQUENCY ELECTRONIC CO., LTD
Address : HUA YU RD., NO.75, ZHONGKAI HIGH-TECH DEVELOPMENT AREA, HUIZHOU, CHINA
Manufacturer : HUIZHOU TCL KING HIGH FREQUENCY ELECTRONIC CO., LTD
Address : HUA YU RD., NO.75, ZHONGKAI HIGH-TECH DEVELOPMENT AREA, HUIZHOU, CHINA

2. General Description of EUT

| | | | |
|----------------------------|---|---|---|
| EUT Name | : | WIFI MODULE | |
| Models No. | : | WF76RL1500 | |
| Model Difference | : | N/A | |
| Product Description | : | Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40):2422MHz~2452MHz | |
| | | Number of Channel: | 802.11b/g/n(HT20):11 channels 802.11n(HT40):9channels |
| | | Out Power | 802.11b: 17.09 dBm 802.11g: 16.92 dBm 802.11n (HT20): 15.76 dBm 802.11n(HT40): 14.75 dBm |
| | | Antenna Gain: | 2 dBi Printed Antenna |
| | | Modulation Type: | 802.11b: CCK, QPSK, BPSK 802.11g: OFDM 802.11n (20M): OFDM |

| | | | |
|-------------------------------|---|--|--|
| | : | Bit Rate of Transmitter: | 802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps |
| Power Supply | : | DC Voltage supplied from PC System. | |
| Power Rating | : | DC 3.3V by USB adapter from PC System. | |
| Connecting I/O Port(S) | : | Please refer to the User's Manual | |

Note:

- (1) More detail information about Equipment, please refer to User's manual, more information about the RF, please refer to test report.
- (2) Antenna information provided by the applicant.

MPE Calculations for WIFI

1. Antenna Gain:

Integral Antenna: 2 dBi.

2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = (PG) / 4\pi R^2$$

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

4. Test Result:

| Band | Channel | Frequency (MHz) | Power (dBm) [P] | ANT Gain (dBi) [G] | Distance (cm) [R] | Power Density (mW/ cm ²) [S] |
|----------------|---------|-----------------|-----------------|--------------------|-------------------|--|
| 802.11b | CH1 | 2412 | 17.09 | 2 | 20 | 0.0161 |
| | CH6 | 2437 | 17.09 | 2 | 20 | 0.0161 |
| | CH11 | 2462 | 17.02 | 2 | 20 | 0.0159 |
| 802.11g | CH1 | 2412 | 16.79 | 2 | 20 | 0.0151 |
| | CH6 | 2437 | 16.92 | 2 | 20 | 0.0155 |
| | CH11 | 2462 | 16.82 | 2 | 20 | 0.0152 |
| 802.11n (HT20) | CH1 | 2412 | 15.52 | 2 | 20 | 0.0112 |
| | CH6 | 2437 | 15.76 | 2 | 20 | 0.0119 |
| | CH11 | 2462 | 15.62 | 2 | 20 | 0.0115 |
| 802.11n (HT40) | CH3 | 2422 | 14.74 | 2 | 20 | 0.0093 |
| | CH6 | 2437 | 14.75 | 2 | 20 | 0.0094 |
| | CH9 | 2452 | 14.56 | 2 | 20 | 0.0090 |

5. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

| Frequency Range (MHz) | Power density (mW/ cm ²) |
|-----------------------|--------------------------------------|
| 300-1,500 | F/1500 |
| 1,500-100,000 | 1.0 |

For 802.11b/g/n (2412~2462 MHz)

MPE limit S: 1 mW/ cm²

The MPE is calculated as 0.0161mW / cm² < limit 1 mW / cm². So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

Note

For a more detailed features description, please refer to the RF Test Report.