



1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China
Tel: +86-755- 27521059 Fax: +86-755- 27521011 Http://www.sz-ctc.org.cn

Maximum Permissible Exposure Evaluation

FCC ID: 2A9UC-F1

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

EUT Specification

| | |
|----------------------------|--|
| Product Name: | HD Wi-Fi Wireless Video Doorbell |
| Trade Mark: | / |
| Model/Type reference: | F1 |
| Listed Model(s): | / |
| Frequency band (Operating) | WLAN: 2.412GHz ~ 2.462GHz BT:2402MHz~2480MHz |
| Device category | <input type="checkbox"/> Portable (<5mm separation) <input type="checkbox"/> Mobile (>20cm separation) <input checked="" type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others _____ |
| Exposure classification | <input type="checkbox"/> Occupational/Controlled exposure (S=5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²) |
| Antenna diversity | <input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity |
| Antenna gain (Max) | 1.8dBi |
| Evaluation applied | <input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation |

Limits for Maximum Permissible Exposure (MPE)

| Frequency Range(MHz) | Electric Field Strength(V/m) | Magnetic Field Strength(A/m) | Power Density(mW/cm ²) | Average Time |
|---|------------------------------|------------------------------|------------------------------------|--------------|
| (A) Limits for Occupational/Control Exposures | | | | |
| 300-1500 | -- | -- | F/300 | 6 |
| 1500-100000 | -- | -- | 5 | 6 |
| (B) Limits for General Population/Uncontrol Exposures | | | | |
| 300-1500 | -- | -- | F/1500 | 6 |
| 1500-100000 | -- | -- | 1 | 30 |



Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G= gain of antenna in linear scale

$\pi = 3.1416$

R= distance between observation point and center of the radiator in cm

P_d the limit of MPE 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, We will know the distance where the MPE limit is reached.

Measurement Result

Only show the value of the worst antenna.

For 2.4G WiFi:

| Band | Frequency (MHz) | Antenna Gain (dBi) | Maximum Power (dBm) | Tune up tolerance (dBm) | Max. Tune up Power (dBm) | Power Density at 20cm (mW/cm ²) | Limit (mW/cm ²) |
|--------------------|-----------------|--------------------|---------------------|-------------------------|--------------------------|---|-----------------------------|
| WLAN 802.11b | 2462 | 1.8 | 16.77 | 17±1 | 18 | 0.19 | 1.000 |
| WLAN 802.11g | 2462 | 1.8 | 17.75 | 17±1 | 18 | 0.19 | 1.000 |
| WLAN 802.11n(HT20) | 2452 | 1.8 | 17.78 | 17±1 | 18 | 0.19 | 1.000 |

For BLE

| Band | Frequency (MHz) | Antenna Gain (dBi) | Maximum Power (dBm) | Tune up tolerance (dBm) | Max. Tune up Power (dBm) | Power Density at 20cm (mW/cm ²) | Limit (mW/cm ²) |
|------|-----------------|--------------------|---------------------|-------------------------|--------------------------|---|-----------------------------|
| BLE | 2402 | 1.8 | 3.352 | 3±1 | 4 | 0.001 | 1.000 |
| | 2440 | 1.8 | 3.553 | 3±1 | 4 | 0.001 | 1.000 |
| | 2480 | 1.8 | 3.564 | 3±1 | 4 | 0.001 | 1.000 |

Note:

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

So the transmitter complies with the RF exposure requirements and the SAR is not required.

*****THE END*****