

## RF EXPOSURE EVALUATION

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)

FCC ID: 2AQKA-E10W

### EUT Specification

<b>EUT</b>	<b>Hunting camera</b>
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz / 2.422GHz ~ 2.452GHz <input type="checkbox"/> WLAN: 5.18GHz ~ 5.24GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input checked="" type="checkbox"/> Others: 2.402GHz~2.480GHz 2.4G
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna diversity</b>	<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
<b>Max. output power</b>	Wifi 2.4G: 12.60dBm (0.0182W) BT 4.2 BLE: 2.781dBm (0.0019W)
<b>Antenna gain (Max)</b>	2.2 dBi
<b>Evaluation applied</b>	<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 <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
300-1500	--	--	<b>F/300</b>	<b>6</b>
1500-100000	--	--	<b>5</b>	<b>6</b>
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
300-1500	--	--	<b>F/1500</b>	<b>6</b>
1500-100000	--	--	<b>1</b>	<b>30</b>

## Friis transmission formula: $P_d = \frac{P_{out} * G}{4 * \pi * R^2}$

Where

$P_d$  = Power density in  $mW/cm^2$

$P_{out}$  = 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,  $1mW/cm^2$ . 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

### WIFI 2.4GHz :

Channel Frequency (MHz)	Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
2412	10.45	10.45±1	11.45	2.2	0.0046	1
2437	10.46	10.46±1	11.46	2.2	0.0046	1
2462	11.55	11.55±1	12.55	2.2	0.0059	1
2412	11.58	11.58±1	12.58	2.2	0.0060	1
2437	11.45	11.45±1	12.45	2.2	0.0058	1
2462	<b>12.60</b>	<b>12.60±1</b>	13.60	2.2	0.0076	1
2412	11.72	11.72±1	12.72	2.2	0.0062	1
2437	11.53	11.53±1	12.53	2.2	0.0059	1
2462	11.71	11.71±1	12.71	2.2	0.0062	1
2422	11.84	11.84±1	12.84	2.2	0.0063	1
2437	11.68	11.68±1	12.68	2.2	0.0061	1
2452	12.27	12.27±1	13.27	2.2	0.0070	1

**Note: WIFI 2.4G cannot support simultaneous transmission.**

### BT

Channel Frequency (MHz)	Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/ cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
2402	0.418	0.418±1	1.418	2.2	0.0005	1
2440	1.92	1.92±1	2.92	2.2	0.0006	1
2480	2.781	2.781±1	3.781	2.2	0.0008	1

**Note: BT cannot support simultaneous transmission.**