

## 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:2AQA6-H6072A

### EUT Specification

<b>EUT</b>	RGBICWW Floor Lamp
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <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
<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 type="checkbox"/> Single antenna <input checked="" 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>	BLE:0.61dBm (0.0012W); 2.4G WIFI: 15.44dBm (0.0350W)
<b>Antenna gain (Max)</b>	BLE: 2 dBi; 2.4G WIFI: 2dBi
<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

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits ( $mW/cm^2$ )
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	( $mW/cm^2$ )	
802.11b	2412	15.33	15.33 ±1	16.33	2	0.0135	1
	2437	15.33	15.33 ±1	16.33	2	0.0135	1
	2462	15.44	15.44 ±1	16.44	2	0.0139	1
802.11g	2412	14.54	14.54 ±1	15.54	2	0.0113	1
	2437	14.64	14.64 ±1	15.64	2	0.0116	1
	2462	14.88	14.88 ±1	15.88	2	0.0122	1
802.11n (HT20)	2412	14.52	14.52 ±1	15.52	2	0.0112	1
	2437	14.37	14.37 ±1	15.37	2	0.0109	1
	2462	14.93	14.93 ±1	15.93	2	0.0124	1
802.11n (HT40)	2422	12.13	12.13 ±1	13.13	2	0.0065	1
	2437	12.36	12.36 ±1	13.36	2	0.0068	1
	2452	12.30	12.30 ±1	13.3	2	0.0067	1
BLE	2402	0.14	0.14 ±1	1.14	2	0.0004	1
	2440	0.09	0.09 ±1	1.09	2	0.0004	1
	2480	0.61	0.61 ±1	1.61	2	0.0005	1

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