

## 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: 2AQ3A-N600S

### EUT Specification

<b>EUT</b>	<b>Night Light For Kids</b>
<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 type="checkbox"/> Others: 2.402GHz~2.480GHz BLE
<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>	2.4G WiFi : 19.52dBm (0.0895W)
<b>Antenna gain (Max)</b>	2.3 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>				
<b>300-1500</b>	--	--	<b>F/300</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>5</b>	<b>6</b>
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
<b>300-1500</b>	--	--	<b>F/1500</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>1</b>	<b>30</b>

## Friis transmission formula: $Pd=(Pout*G)/(4*pi*R^2)$

Where

Pd= Power density in mW/cm<sup>2</sup>

Pout=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

Pd the limit of MPE, 1mW/cm<sup>2</sup>. 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

### 2.4GHz WiFi:

Operating Mode	Channel Frequency	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits (mW/cm <sup>2</sup> )
	(MHz)	(dBm)	(dBm)	(dBm)	(dBi)	(mW/ cm <sup>2</sup> )	
802.11b	2412	17.46	17.46±1	18.46	2.3	0.0237	1
	2437	18.67	18.67±1	19.67	2.3	0.0313	1
	2462	<b>19.52</b>	<b>19.52±1</b>	20.52	2.3	0.0381	1
802.11g	2412	15.00	15.00±1	16	2.3	0.0135	1
	2437	17.04	17.04±1	18.04	2.3	0.0215	1
	2462	18.74	18.74±1	19.74	2.3	0.0318	1
802.11n (HT20)	2412	14.84	14.84±1	15.84	2.3	0.0130	1
	2437	16.85	16.85±1	17.85	2.3	0.0206	1
	2462	18.81	18.81±1	19.81	2.3	0.0323	1

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