

## 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: 2AETS-PPCPF01

### EUT Specification

<b>EUT</b>	<b>Pawbo Crunchy</b>
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5825GHz <input checked="" type="checkbox"/> Others: 2.402GHz~2.480GHz (EDR&EDR+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>	17.61 dBm (0.0577W) for Wifi 6.029 dBm (0.0040W) for BDR&EDR 4.851 dBm (0.0031W) for BLE
<b>Antenna gain (Max)</b>	-1.49 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<sup>2</sup>

$P_{out}$  = 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<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

Operating Mode	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> )
802.11b	2412	16.03	16.03±1	17.03	-1.49	0.0071	1
	2437	15.75	15.75±1	16.75	-1.49	0.0067	1
	2462	17.61	17.61±1	18.61	-1.49	0.0103	1
802.11g	2412	13.45	13.45±1	14.45	-1.49	0.0039	1
	2437	13.31	13.31±1	14.31	-1.49	0.0038	1
	2462	15.10	15.10±1	16.10	-1.49	0.0058	1
802.11n (HT20)	2412	13.35	13.35±1	14.35	-1.49	0.0038	1
	2437	13.32	13.32±1	14.32	-1.49	0.0038	1
	2462	15.02	15.02±1	16.02	-1.49	0.0056	1
BDR&E DR	2402	-1.943	-1.943±1	-0.943	-1.49	0.0001	1
	2441	1.798	1.798±1	2.798	-1.49	0.0003	1
	2480	4.005	4.005±1	5.005	-1.49	0.0004	1
	2402	0.120	0.120±1	1.120	-1.49	0.0002	1
	2441	3.882	3.882±1	4.882	-1.49	0.0004	1
	2480	6.029	6.029±1	7.029	-1.49	0.0007	1
BLE	2402	4.291	4.291±1	5.291	-1.49	0.0005	1
	2440	4.638	4.638±1	5.638	-1.49	0.0005	1
	2480	4.851	4.851±1	5.851	-1.49	0.0005	1