

## 5. RF EXPOSURE EVALUATION

### 5.1 Applicable Standard

FCC §15.247 (i) and subpart §1.1307

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

### 5.2 Procedure

According to §1.1307(b)(3)(i)

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold  $P_{th}$  (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

$d$  = the separation distance (cm);

### 5.3 Measurement Result

Operation Modes	Frequency (MHz)	Distance (mm)	P <sub>th</sub>		Maximum Conducted Power including Tune-up Tolerance (dBm)	Antenna Gain (dBi)	ERP (dBm)	Exemption
			(mW)	(dBm)				
WLAN 2.4G	2412-2462	200	3060	<b>34.86</b>	25	4.5	30.35	Compliant
WLAN 5.2G	5150-5250	200	3060	<b>34.86</b>	23	3.0	26.85	Compliant
WLAN 5.8G	5725-5850	200	3060	<b>34.86</b>	22	3.0	25.85	Compliant

Note: the 2.4G and 5G WLAN can't transmit simultenuously. Beamforming Gain is 3dBi.

**Result: The device compliant the RF exposure at 20cm distances.**

**===== END OF REPORT =====**