

## 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: 2AWJK-WMT-H16C

### EUT Specification

EUT	Wireless Presentation System
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input checked="" type="checkbox"/> WLAN: 5.18GHz ~ 5.24GHz <input checked="" type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input type="checkbox"/> Others: BLE: 2402-2480MHz
<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 <input checked="" type="checkbox"/> General Population/Uncontrolled exposure
<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>	WiFi 2.4G ANT1: 16.13dBm(0.0410W) WiFi 2.4G ANT2: 15.17dBm(0.0329W) WiFi 5.2G ANT1: 17.45dBm(0.0556W) WiFi 5.2G ANT2: 17.02dBm(0.0504W) WiFi 5.8G ANT1: 16.96dBm(0.0497W) WiFi 5.8G ANT2: 16.96dBm(0.0497W)
<b>Antenna gain (Max)</b>	WiFi 2.4G ANT1 / ANT2: 2.27dBi WiFi 5.2G ANT1 / ANT2: 5.18dBi WiFi 5.8G ANT1 / ANT2: 4.09dBi
<b>Directional antenna gain</b>	WiFi 2.4G: 5.28dBi WiFi 5.2G: 8.19dBi WiFi 5.8G: 7.10dBi
<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>30</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	Measured Power	Tune up tolerance	Max. Tune up Power	Antenna Gain	Power density at 20cm	Power density Limits
	(dBm)	(dBm)	(dBm)	(dBi)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )
WiFi 2.4G ANT1	16.13	16.13 ±1	17.13	2.27	0.0173	1
WiFi 2.4G ANT2	15.17	15.17 ±1	16.17	2.27	0.0139	1
WiFi 2.4G MIMO	17.62	17.62 ±1	18.62	5.28	0.0489	1
WiFi 5.2G ANT1	17.45	17.45 ±1	18.45	5.18	0.0459	1
WiFi 5.2G ANT2	17.02	17.02 ±1	18.02	5.18	0.0416	1
WiFi 5.2G MIMO	20.10	20.10 ±1	21.10	8.19	0.1690	1
WiFi 5.8G ANT1	16.96	16.96 ±1	17.96	4.09	0.0319	1
WiFi 5.8G ANT2	16.96	16.96 ±1	17.96	4.09	0.0319	1
WiFi 5.8G MIMO	19.97	19.97 ±1	20.97	7.10	0.1276	1

**Note: The WiFi 2.4G and WiFi 5G cannot transmit simultaneously.**