

**FCC ID : C5FAXI515**

**11. 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)

**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>

**11.1 Friis transmission formula :  $P_d = (P_{out} * G) / (4 * \pi * R^2)$**

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, 1 mW/ cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

**11.2 EUT Operating Condition**

A software provided by client enabled the EUT to transmit and receive data at low, middle and high channel individually.

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**11.3 Test Result of RF Exposure Evaluation**

Test Item : RF Exposure Evaluation Data

Test Mode : Normal Operation

**11.3.1 Output Peak Power & RF Exposure Evaluation Distance**

Chip Antenna gain : 4 dBi

Channel	Channel Frequency (MHz)	Output Peak Power (dBm)	Antenna Gain (dBi)	Power Density at 20 cm (mW/cm <sup>2</sup> )	LIMITS (mW/cm <sup>2</sup> )
Low	2402	-0.77	4	0.00042	1
Middle	2441	-0.01	4	0.00050	1
High	2480	-0.11	4	0.00048	1

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