

# FCC ID : XUJGOLOG1002

## 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: $P_d = \frac{P_{out} * G}{4 * \pi * R^2}$

Where

$P_d$  = Power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

$G$  = Numeric gain of the antenna relative to isotropic antenna

$\pi$  = 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.

### 11.2 Measurement Result

Antenna gain: 2.1dB

Mode	Channel Frequency (MHz)	Max Output Peak power (dBm)	Output Peak power (mW)	Antenna Gain (dBi) Numeric	Power density at 20cm (mW/ cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
GFSK	2402.00	1.428	1.3893	1.6218	0.0005	1
GFSK	2441.00	1.834	1.5255	1.6218	0.0005	1
GFSK	2480.00	1.515	1.4174	1.6218	0.0005	1
1/4 Π -DPSK	2402.00	1.371	1.3712	1.6218	0.0004	1
1/4 Π -DPSK	2441.00	1.770	1.5031	1.6218	0.0005	1
1/4 Π -DPSK	2480.00	1.508	1.4151	1.6218	0.0005	1
8DPSK	2402.00	1.382	1.3747	1.6218	0.0004	1
8DPSK	2441.00	1.757	1.4986	1.6218	0.0005	1
8DPSK	2480.00	1.520	1.4191	1.6218	0.0005	1