

## RF EXPOSURE

**FCC ID: 2AB9F-HM10005**

### Applicable Standard

According to §15.247(i) and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

<b>(B) Limits for General Population/Uncontrolled Exposure</b>				
<b>Frequency range (MHz)</b>	<b>Electric field strength (V/m)</b>	<b>Magnetic field strength (A/m)</b>	<b>Power density (mW/cm<sup>2</sup>)</b>	<b>Averaging time (minutes)</b>
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz; \* = Plane-wave equivalent power density;  
According to §1.1310 and §2.1091 RF exposure is calculated.

### Calculated Formulary:

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$  = power density (in appropriate units, e.g. mW/cm<sup>2</sup>);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

### 5.1.2 Result:

Antenna A:

<b>Frequency (MHz)</b>	<b>Antenna Gain</b>		<b>Conducted Power</b>		<b>Evaluation Distance(cm)</b>	<b>Power Density (mW/cm<sup>2</sup>)</b>	<b>MPE Limit (mW/cm<sup>2</sup>)</b>
	(dBi)	(numeric)	(dBm)	(mW)			
5240	1.0	1.259	11	12.59	20	0.003155	1

Note: Declare Maximum Power of the device:(802.11 a 20M): 10dBm (802.11 n 20M): 10dBm (802.11 ac 20M): 10dBm (802.11 n 40M): 8dBm (802.11 ac 40M): 8dBm (802.11 ac 80M):5dBm, the power tolerance can't be more than +/-1dBm, the maximum power value of the actual test is 802.11 a 20M-5180MHz (9.94dBm), 802.11 n 20M-5240MHz (10.08dBm), 802.11 ac 20M-5200MHz (10.05dBm), 802.11 n 40M-5190MHz (8.18dBm), 802.11 ac 40M-5190MHz (8.11dBm), 802.11 ac 80M-5210MHz (5.24dBm).

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

### Result: Compliance