

## RADIO FREQUENCY EXPOSURE

### 1. Limit

According to §1.1310 and §2.1091 RF exposure is calculated.

**Table: Limits for General Population/Uncontrolled Exposure**

Frequency Range (MHz)	Power Density (S) (mW/cm <sup>2</sup> )
0.3–1.34	*(100)
1.34–30	*(180/f <sup>2</sup> )
30–300	0.2
300–1500	f/1500
1500–100,000	1.0

F = frequency in MHz

\* = Plane-wave equivalent power density

### Maximum Permissible Exposure

The MPE was calculated at 20cm to show compliance with the power density limit.

$$S = PG/4\pi R^2$$

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna.

Note:

1. Manufacturer declared that the maximum antenna gain is 3.3dBi (Max.) for 2.4G WLAN (So the G for calculate the MPE is 2.14).
2. Manufacturer declared that the nearest distance between human and the EUT is 20cm.
3. Only record worst case data.

## 2 Test Results

### Standalone MPE

Test		Channel	ANT Power (dBm)	ANT Max. Tune Up Power (dBm)	ANT Max. Tune Up Power (mW)	ANT MPE (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2.4GWLAN	802.11b	1	16.74	16.0±1.0	50.1187	0.0213	1.0
		6	16.37	16.0±1.0	50.1187	0.0213	1.0
		11	16.48	16.0±1.0	50.1187	0.0213	1.0
	802.11g	1	15.51	15.0±1.0	39.8107	0.0169	1.0
		6	15.60	15.0±1.0	39.8107	0.0169	1.0
		11	15.31	15.0±1.0	39.8107	0.0169	1.0
	802.11n20	1	14.45	14.0±1.0	31.6228	0.0135	1.0
		6	14.26	14.0±1.0	31.6228	0.0135	1.0
		11	14.34	14.0±1.0	31.6228	0.0135	1.0
	802.11n40	3	13.22	13.0±1.0	25.1189	0.0107	1.0
		6	13.34	13.0±1.0	25.1189	0.0107	1.0
		9	13.48	13.0±1.0	25.1189	0.0107	1.0

Note: The estimation distance is 20cm.

### Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.