8. RADIO FREQUENCY EXPOSURE

8.1. 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/cm2)
0.3–1.34	*(100)
1.34–30	*(180/f^2)
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 1.0dBi(Max.).

2. Manufacturer declared that the nearest distance between human and the EUT is 20cm.

3. Only record worst case data.

Test Mode	Channel	Frequency (MHz)	ANT Power (dBm)	ANT Power Tune Up (dBm)
802.11b	Low	2412	18.31	18.0±1.0
	Middle	2437	18.55	18.0±1.0
	High	2462	18.54	18.0±1.0
802.11g	Low	2412	17.93	17.0±1.0
	Middle	2437	17.71	17.0±1.0
	High	2462	17.92	17.0±1.0
802.11n HT20	Low	2412	17.58	17.0±1.0
	Middle	2437	17.68	17.0±1.0
	High	2462	17.81	17.0±1.0
802.11n HT40	Low	2422	16.55	16.0±1.0
	Middle	2437	16.78	16.0±1.0
	High	2452	16.81	16.0±1.0

8.2 Test Results

Test Mode	Channel	ANT Max. Tune Up Power (mW)	ANT MPE (mW/cm^2)	Limit (mW/cm^2)
802.11b	Low	79.4328	0.019911	1.0
	Middle	79.4328	0.019911	1.0
	High	79.4328	0.019911	1.0
802.11g	Low	63.0957	0.015816	1.0
	Middle	63.0957	0.015816	1.0
	High	63.0957	0.015816	1.0
802.11n HT20	Low	63.0957	0.015816	1.0
	Middle	63.0957	0.015816	1.0
	High	63.0957	0.015816	1.0
802.11n HT40	Low	50.1187	0.012563	1.0
	Middle	50.1187	0.012563	1.0
	High	50.1187	0.012563	1.0

Antenna Gain (typical): 1.0dBi, 1.26(numeric)

Prediction distance: >=20cm

The power density level worst case at 20 cm is below the uncontrolled exposure limit.