7. RADIO FREQUENCY EXPOSURE

7.1. 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 2.0dBi(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)	Power (dBm)	Power Tune Up (dBm)
802.11b	Low	2412	18.84	18.0±1.0
	Middle	2437	18.70	18.0±1.0
	High	2462	17.90	18.0±1.0
802.11g	Low	2412	21.92	21.0±1.0
	Middle	2437	21.14	21.0±1.0
	High	2462	21.70	21.0±1.0
802.11n HT20	Low	2412	21.85	21.0±1.0
	Middle	2437	21.14	21.0±1.0
	High	2462	21.30	21.0±1.0
802.11n HT40	Low	2422	19.15	19.0±1.0
	Middle	2437	18.90	19.0±1.0
	High	2452	18.43	19.0±1.0

7.2 Test Results

Test Mode	Channel	Max. Tune Up Power (dBm)	Max. Tune Up Power (mW)	MPE (mW/cm^2)	Limit (mW/cm^2)
802.11b	Low	19.0	79.43	0.0250	1.0
	Middle	19.0	79.43	0.0250	1.0
	High	19.0	79.43	0.0250	1.0
802.11g	Low	22.0	158.49	0.0500	1.0
	Middle	22.0	158.49	0.0500	1.0
	High	22.0	158.49	0.0500	1.0
802.11n HT20	Low	22.0	158.49	0.0500	1.0
	Middle	22.0	158.49	0.0500	1.0
	High	22.0	158.49	0.0500	1.0
802.11n HT40	Low	20.0	100.00	0.0315	1.0
	Middle	20.0	100.00	0.0315	1.0
	High	20.0	100.00	0.0315	1.0

Antenna Gain (typical): 2.0dBi, 1.585(numeric)

Prediction distance: >=20cm

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