
RF exposure

According to **FCC part 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)

According to **RSS-Gen 5.6** : Category I and II equipment shall comply with the applicable requirements of RSS-102

Friis transmission formula: $P_d = (P_{out} \times G) / (4 \times \pi \times R^2)$

Where,

P_d = power density

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d the limit of MPE, $f/1500$ mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Results

- 15.247C

Operation mode / Data Rate	Frequency (MHz)	Peak output power (dBm)	Antenna gain (dBi)	Power density at 20 cm (mW/cm ²)	Power density at 20 cm (W/m ²)	Limit (mW/cm ²)	Limit (W/m ²)
802.11b / 5.5 Mbps	2 437	23.18	1.69	0.0586	0.5861	1	10
802.11g / 9 Mbps	2 437	27.19	1.69	0.1476	1.4757	1	10
802.11n(HT20) / MCS0	2 437	26.86	1.69	0.1368	1.3677	1	10
802.11n(HT40) / MCS0	2 437	24.70	1.69	0.0832	0.8318	1	10
802.11a / 9 Mbps	5 745	23.69	8.11	0.2891	2.8907	1	10
802.11n(HT20) / MCS0	5 745	23.76	8.11	0.2938	2.9377	1	10
802.11n(HT40) / MCS0	5 755	23.47	8.11	0.2748	2.7479	1	10

- 15.407E

Operation mode / Data Rate	Frequency (MHz)	output power (dBm)	Antenna gain (dBi)	Power density at 20 cm (mW/cm ²)	Power density at 20 cm (W/m ²)	Limit (mW/cm ²)	Limit (W/m ²)
802.11a / 9 Mbps	5 240	14.74	3.68	0.0132	0.1327	1	10
802.11n(HT20) / MCS0	5 240	16.41	3.68	0.0195	0.1950	1	10
802.11n(HT40) / MCS0	5 230	16.89	3.68	0.0218	0.2178	1	10

Result: The power density does NOT exceed the limit