

1. RF Exposure Evaluation

1.1 Limits

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)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500			f/300	6
1500–100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

f = frequency in MHz

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

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

R = distance to the centre of radiation of the antenna

1.2 Test Result of RF Exposure Evaluation

802.11b mode

Channel	Output power to antenna (mW)	Power Density for ANT1 at R=20cm (mW/cm ²)	Power Density for ANT2 at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	52.24	0.01848	0.01848	1.0	PASS
Middle	55.59	0.01966	0.01966	1.0	PASS
Highest	54.95	0.01944	0.01944	1.0	PASS

802.11g mode

Channel	Output power to antenna (mW)	Power Density for ANT1 at R=20cm (mW/cm ²)	Power Density for ANT2 at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	20.89	0.00739	0.00739	1.0	PASS
Middle	24.38	0.00862	0.00862	1.0	PASS
Highest	22.39	0.00792	0.00792	1.0	PASS

802.11n(H20) mode

Channel	Output power to antenna (mW)	Power Density for ANT1 at R=20cm (mW/cm ²)	Power Density for ANT2 at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	17.66	0.00625	0.00625	1.0	PASS
Middle	20.04	0.00709	0.00709	1.0	PASS
Highest	20.23	0.00716	0.00716	1.0	PASS

802.11n(H20) mode

Channel	Output power to antenna (mW)	Power Density for ANT1 at R=20cm (mW/cm ²)	Power Density for ANT2 at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	17.02	0.00602	0.00602	1.0	PASS
Middle	18.62	0.00659	0.00659	1.0	PASS
Highest	17.74	0.00628	0.00628	1.0	PASS

Remark: The antenna gain of ANT1 and ANT2 are 2.5 dBi