

RF Exposure Evaluation

LIMIT

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

Note: f = frequency in MHz

EVALUATION METHOD

Transmission formula: $Pd = (Pout*G)/(4*pi*r^2)$

Where

Pd = power density in mW/cm², **Pout** = output power to antenna in mW, **G** = gain of antenna in linear scale;

Pi = 3.1416, **R** = distance between observation point and center of the radiator in cm

TEST RESULT

Passed

Not Applicable

Radio Type	Frequency range (MHz)	Conducted Power (dBm)*	Maximum Tune-up (dBm)	r (m)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
PMR	400-470	46.89	47.70	0.89	1.324	1.333	PASS

Note:

- 1) r is the distance from observation point to the antenna which is declared by the applicant.
- 2) *: refer to the RF report.
- 3) Antenna Gain is 3.5dBi.

If the gain of the antenna is 3.5dBi, the separation distance is at least 0.89m from body and the antenna, so meet this standard requirement.