

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: $Pd = (Pout \cdot G) / (4 \cdot \pi \cdot r^2)$

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**

Evaluate mode	Frequency (MHz)	Maximum power (dBm)	Antenna Gain(dBi)	Antenna Gain(liner)	Power Density (mW/cm2)	Power Density Limit (mW/cm2)
WCDMA band 2	1852.40	23.01	3.00	1.995	0.0794	1.000
WCDMA band 5	826.40	21.87	3.00	1.995	0.0611	0.521
LTE band 2	1900.00	25.48	3.00	1.995	0.1402	1.000
LTE band 4	1720.00	24.05	3.00	1.995	0.1009	1.000
LTE band 5	829.00	24.13	3.00	1.995	0.1027	0.553
LTE band 17	709.00	23.62	3.00	1.995	0.0914	0.473

Note:

the below information is declared by the applicant,

- 1) WCDMA Band 1/8 Antenna Gain= 3.00dBi, LTE Band 2/4/5/17 Antenna Gain= 3.00dBi.
- 2) The exposure safety distance is 20cm.