

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**

Type	Maximum Conducted Average Power(dBm)
GSM850	32.31
PCS1900	29.76
LTE Band 2	23.93
LTE Band 4	22.42
LTE Band 5	23.83
LTE Band 12	23.67
LTE Band 13	23.91
LTE Band 26	23.79
BT-BLE	-7.40

Type	Tune-up range(dBm)	Maximum Tune-up (dBm)	Power Density (mW/cm2)	Limit (mW/cm2)	Result
GSM850	31 ~ 33	33	0.2505	0.5659	Pass
PCS1900	29 ~ 31	31	0.1580	1.0000	Pass
LTE Band 2	22 ~ 24	24	0.0315	1.0000	Pass
LTE Band 4	22 ~ 24	24	0.0315	1.0000	Pass
LTE Band 5	22 ~ 24	24	0.0315	0.5503	Pass
LTE Band 12	22 ~ 24	24	0.0315	0.4670	Pass
LTE Band 13	22 ~ 24	24	0.0315	0.5230	Pass
LTE Band 26	22 ~ 24	24	0.0315	0.5498	Pass
BT-BLE	-9 ~ -7	-7	0.00004	1.0000	Pass

Note:

- 1) The maximum antenna gain: BT= 0dBi 2G/4G= -2dBi
- 2) The exposure evaluation safety distance is 20cm.