

Appendix IV MPE

FCC ID: 2ATQZ-F40I

Prediction of MPE at a given distance

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)

KDB Test Methodology: KDB 447498 D01 v06.

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 Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

2. Test Procedure

Equation from page 18 of 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

3. Result

2.4G SRD:

Field strength =67.03dBuV/m @3m

EIRP=67.03-95.2=-28.17dBm

Mode	Frequency (MHz)	Prediction distance (cm)	RF output power(Max) (dBm)	Tune-up power (Max)		MPE (mW/cm ²)	Limit (mW/cm ²)	SAR Test Exclusion
				dBm	mW			
BT LE	2402-2480	20	-2.73	-2	0.6310	0.000177	1	Yes
BT EDR	2402-2480	20	2.03	3	1.9953	0.000561	1	Yes
2.4G SRD	2415-2455	20	-28.17	-28	0.002	0.000001	1	Yes

Note: BT/2.4G Antenna: max gain 1.5dBi, 1.41(numeric)

Maximum Simultaneous transmission MPE Ratios for BT+2.4G SRD

Max MPE Ratio BT/Limit	Max MPE Ratio 2.4G SRD/Limit	ΣMPE ratios	Limit	Result
0.000561	0.000001	0.000562	1	PASS

Conclusion: Therefore this device complies with FCC's RF radiation exposure limits for general population without SAR evaluation.

The device is evaluated as a Mobile Device per FCC Part 2.1091 requirements. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To ensure compliance, this equipment should be installed and operated with a minimum distance of 20cm between the radiator (antenna) and the user's body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter except in accordance with FCC multi-transmitter product procedures.