

MPE Calculation

Regulation(s): Part 1.1310, Part 2.1091

Method: KDB447498 D01v06

RF feature(Mode)	Frequency range (MHz)		Field Strength at 3m (dBuV/m)	Conversion Factor (dB) ^{Note1}	EIRP (dBm)	Max EIRP (mW)	Maximum power density (mW/cm ²)	Requirement (mW/cm ²)
FSK	433.065	~ 433.590	79.76	-95.16	-15.40	0.029	0.0001	0.2880
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Note1: EIRP(dBm) = E(dBuV/m) + 20logD -104.7; Where D is the measurement distance in meters.

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.

The MPE sample calculation for this exposure is shown below.

$$\begin{aligned}
 S &= \text{EIRP} / (4 R^2 \pi) \\
 &= 0.029 / (4 \times 20^2 \times \pi) \\
 &= 0.000 \text{ mW/cm}^2
 \end{aligned}$$

- Note

S= Maximum power density(mW/cm²)

EIRP= Equivalent Isotropic Radiated Power(mW)

R= Distance to the center of the radiation of the antenna(20cm)

Part 1.1310

▪ 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)
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

Conclusion : The exposure condition of this device is compliant with FCC