

Maximum Permissible Exposure

FCC ID: UCZ-L222A8-Z

Applicable Standard

According to §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

- Remark: 1) In SISO mode/ Antenna 0, the maximum output power for antenna is 14.06dBm (25.47mW) at 2462MHz, 2dBi antenna gain(with 1.58 numeric antenna gain.)
In SISO mode/ Antenna 1 the maximum output power for antenna is 14.25dBm (26.61mW) at 2462MHz, 2dBi antenna gain(with 1.58 numeric antenna gain.)
In MIMO mode/ Antenna 0, the maximum output power for antenna is 12.15dBm (16.41mW) at 2462MHz, 2dBi antenna gain(with 1.58 numeric antenna gain.)
In MIMO mode/ Antenna 1 the maximum output power for antenna 0 is 11.79dBm (15.10mW) at 2462MHz, 2dBi antenna gain(with 1.58 numeric antenna gain.)
- 2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

Calculation

Given $E = \sqrt{\frac{30 \times P \times G}{d}}$ & $S = \frac{E^2}{3770}$

Where $E =$ Field Strength in Volts / meter

$P =$ Power in Watts

$G =$ Numeric antenna gain

$d =$ Distance in meters

$S =$ Power Density in milliwatts / square centimeter

Substituting the MPE safe distance using $d=20\text{cm}$ into above equation.

Yields: $S=0.000199 \times P \times G$

(For mobile or fixed location transmitters, the maximum power density is 1.0 mW/cm^2 even if the calculation indicates that the power density would be larger.)

SISO mode

MPE 0:

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
WIFI	25.47	1.58	0.008008	1.0	PASS

MPE 1:

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)	Limit (mW/cm ²)	Result
WIFI	26.61	1.58	0.008367	1.0	PASS

MIMO mode

MPE 0:

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)
WIFI	16.41	1.58	0.005160

MPE 1:

Mode	Power(mW)	numeric antenna gain	Power density (mW/cm ²)
WIFI	15.10	1.58	0.004748

Total MPE:

Maximum Emissions Level					
Mode	MPE 0	MPE 1	Total MPE	Limit (mW/cm ²)	Result
2.4G WIFI	0.005160	0.004748	0.009908	1.0	PASS