

WipAir 8000 2.5GHz, FCC ID:QQ2-WA8K25X

RF Hazard Distance Calculation

The Power density is given by:

$$(1) S = \frac{P \times G}{4 \times \pi \times R^2}$$

Therefore:

$$(2) R = \sqrt{\frac{P \times G}{4 \times \pi}}$$

Where:

P = Power input to the antenna [mW].

G = Antenna Gain in the direction of interest [In numeric format].

R = Distance to the center of radiation antenna [cm].

$$(3) P_{dBm} = 10 \times \log P_{mW}$$

Therefore:

$$(4) P_{mW} = 10^{\frac{P_{dBm}}{10}}$$

The hazard distances versus antenna gain are listed in the following table:

Antenna gain		Max TX Power		EIRP		Safe distance	
dBi	Numeric	dBm	mW	dBm	mW	cm	
27	501.1872	30.374	1089.933	57.374	546260.8	208.4947233	

Max TX power 30.374dBm, obtained at mid frequency 2593MHz at 10MHz channel BW. General public will not be exposed to dangerous RF level, when the fixed radio device will be used at distance above 208.5 cm. When using the system for applications, all outdoor units must be installed with a separation distance of at least 2.5 meters from all persons during normal operation. Warning in the user manual will be provided