

MPE Calculations

The device is a wireless module designed for use in devices that will have the antenna at a distance of 20cm or more from persons. The OEM guidelines specify a minimum separation distance of at least 20cm, consistent with this classification.

FCC part 1.1310, Table 1 limits the power density for uncontrolled exposure. The power density, P_d (mW/cm^2) calculated from the maximum EIRP, P_t (mW) and the distance, d (m), between the transmitting antenna and the closest person, can be calculated using:

$$P_d = P_t / (4 \pi d^2)$$

Frequency	MPE Limit (mW/cm^2)	Output Power (mW)	Max. Antenna Gain (dBi)	EIRP (mW)	P_d at 20cm (mW/cm^2)	Distance where $P_d =$ limit (cm)
2402 to 2478 MHz	1.00	46.8	2.0	74.1	0.01	2.4

As shown in the calculations above, the power density 20cm from the device is below the maximum permitted level for uncontrolled exposure.