

MPE Calculations

The device is not a portable device (i.e. intended to be worn on the body or be hand-held), so it is classified as being either a mobile device or a fixed mounted device. The user's manual specifies a minimum separation distance of at least 21cm, 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:

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

RF Exposure Calculation for 2.4 GHz Transmitter

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)
2400 to 2484 MHz	1.00	537.0	7.4	2951.2	0.6	15.3

RF Exposure Calculation for 5GHz Transmitter

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)
5725 to 5850 MHz	1.00	60.3	16.0	2398.8	0.5	13.8

RF Exposure Calculation for Both Transmitters

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)
2400 to 5850 MHz	1.00	-	-	5345.6	1.1	20.6

(EIRP used is the sum of the EIRPs of the individual transmitters)

As shown in the calculations above, the power density 21cm from the device is below the maximum permitted level for uncontrolled exposure.