

RF Exposure evaluation (FCC 2.1091)

The EUT is a wireless device used in a mobile/fixed application, at least 20 cm from any body part of the user or nearby persons.

The maximum conducted power is 5 W.

According to the Applicant, the transmitter is most often used with 2 dBi monopole whips, but it can be used with about anything depending on the application.

Using the formula for the Power Density $S = \text{EIRP} / 4\pi D^2$, the distance D, where the Maximum Permissible Exposure (MPE) satisfies the FCC 1.1310 limit ($S = \text{MPE}$) for General Population/Uncontrolled Exposure, can be calculated as:

$$D \geq \sqrt{(\text{EIRP} / 4\pi S)}$$

The MPE Limit in the frequency range 2450 – 2483.5 MHz is 10 W/m².

In the Table below, the minimum distance D (in meters) is presented for different antenna gain used with the 5 Watt and 2 Watt transmitters.

Antenna gain, dBi	Antenna gain, numerical	Conducted Output Power = 5W		Conducted Output Power = 2 W	
		EIRP, Watt	Minimum Distance, meter	EIRP, Watt	Minimum Distance, meter
0	1.0	5.0	1.0	2.0	>0.2
2	1.58	7.92	0.251	3.16	>0.2
5	3.16	15.8	0.355	6.32	0.22
10	10.0	50	0.631	20	0.4
15	31.6	158	1.121	63.2	0.71
20	100	500	1.995	200	1.26
25	316.2	1580	3.546	632.4	2.24
30	1000	5000	6.308	2000	4.0

User Manual must contain a Warning/ Guidance about RF Exposure.