The G900 is a wireless sensor designed for industrial IoT applications.

Per OET Bulletin 65 Edition 97-01, Appendix A Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	**Uncontrolled Exposure (table 1 B) Power Density 'S' (mW/cm^2)**
300-1500	f/1500

Where *f* is in MHz

The worst-case scenario is provided at 903 MHz.

The maximum power density exposure is:

S = 0.602 mW/cm^2, for uncontrolled exposure

LoRa RF conducted power measurement and antenna gain as per test report c58e18a233-FCC section 2.3.5 are reported below. The worst-case value is in bold below

TX	Frequency (MHz)	RF Output **100%** Duty Cycle (dBm)	Max. antenna gain (dBi)	**EIRP** **100%** duty Cycle(dBm)	EIRP Duty Cycle (mW)
LoRa 500 KHz	903	16.9	0.39	17.29	53.58
	915	17.09	0.39	17.48	55.976
	927	**17.36**	**0.39**	**17.75**	**59.566**

For worst case scenario, the highest measured EIRP value for the LoRa transmitter was rounded up to **60 mW**.

Using the highest transmitted power with the equation (4) from the OET bulletin 65, at a distance of 20 cm

$$S = EIRP / (4 \pi R^2)$$

Where: S, power density in 'mW/cm^2' (we use the value for the LoRa band of 0.602 W/m^2)
EIRP, Effective Isotropic Radiated Power in 'mW'
R, distance to the center of the radiation of the antenna in 'cm'

The RF exposure from the radio is less than the limit specified as shown below and meets the exemption criteria.

0.01193662 mW/cm^2 = (60mW) / (4x π x20^2)

S = 0.012 mW/cm^2 <<< 0.602 mW/cm^2

In addition, we re-arrange the above equation to determine the minimum safe distance.

$$R = \sqrt{[EIRP / (4 \pi S)]}$$

2.82 cm = √ [60mW / (4x π x0.602mw/cm^2)]

R = 2.82 cm, for uncontrolled exposure (rounded up to the first decimal)

The manufacturer manual specified a minimum safe distance of **20 cm**.