

Friis transmission formula

$$S = \frac{P_{out} * G}{4 * \pi * R^2}$$

Where

S = Power density in mW/cm²

P_{out} = Output power to antenna in mW

G = Power Gain of the antenna

R = Separation distance between radiator and human body (cm)

Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic field Strength (H) (A/m)	Power Density (S) (mW/cm ²)
0.3 – 1.34	614	1.63	100
1.34 – 30	824/f	2.16/f	180/f ²
30 - 300	27.5	0.073	0.2
300 – 1500	-	-	f/1500
1500 – 100,000	-	-	1.0

Device parameters:

Frequency: 902.3 – 914.9 MHz

Output power to antenna: 10.92 – 11.13 dBm or 12.36 – 12.97 mW

Antenna gain 2.2 dBi

Distance 20 cm

Results

Frequency (MHz)	Maximum peak output power (dBm)	Antenna Gain (dbi)	Total Power (mW)	Distance (cm)	Limit Power Density (mW/cm ²)	Power Density (mW/cm ²)	Verdict
914.9	11.13	2.2	12.97	20	0.610	0.1135	PASS