FCC Maximum Permissible Exposure (MPE) limits for equipment operating in the frequency range 1500 – 100,000 MHz is 1.0 mW/cm2.

Following installation and commissioning, the safe distance from the antenna is the greater of:

20cm

Or

r cm, where $r = \sqrt{(PG/4\pi S)}$

P: power input to antenna(s) in mW

G: numeric gain of antenna relative to isotropic radiator

S: power density in mW/cm2 = 1 mW/cm2

The safe distance from the antenna shall be the greater of:

20 cm or $\sqrt{(PG/4\pi S)}$

FM3Node

The device is designed to be used at a distance of at least 20cm.

Using measured power and 2.2 dBi antenna:

P*G = 8.36 dBm or 6.85 mW EIRP

$\sqrt{(PG/4\pi S)}$ = 0.74 cm

Assuming nominal power and allowing for manufacturer variation in the chipset

P*G = 9.36 dBm or 8.63 mW EIRP

$\sqrt{(PG/4\pi S)}$ = 0.83 cm

As an exercise in showing the pass margin:

Rearranging the equation $r = \sqrt{((P*G) / 4*\pi*S)}$, we can write $P*G = 4*\pi*S*r^2$

For S=1 and r=20, maximum permitted P*G = 5026 mW EIRP