

MPE calculation_v2

RF Exposure

FCC Maximum Permissible Exposure (MPE) limits for equipment operating in the frequency range 1500 – 100,000 MHz is 1.0 mW/cm^2 .

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

20cm

Or

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

P: power input to antenna(s) in mW

G: numeric gain of antenna relative to isotropic radiator

S: power density in $\text{mW/cm}^2 = 1 \text{ mW/cm}^2$

The device has two antenna ports, so safe distance from the antenna shall be the greater of:

$20 \text{ cm or } \sqrt{(2*PG/4\pi S)}$

Which gives

$20 \text{ cm or } \sqrt{(0.16*P*G)} \text{ cm.}$

The iB440 is designed for use with one of two high-gain antennas:

The maximum antenna port power is 23.56 dBm, or 227 mW, per port, which gives the following safe distances with recommended antennas:

Antenna	Safe Distance (cm)
19 dBi	53.6
28.6 dBi	161.8