

WiBear-I MPE calculation.

Model: AN00K59744

According to FCC §15.247(b)(4) and §1.1307(b)(1), systems operation under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

MPE Prediction

Equation for calculation

$$S=PG/4\pi R^2$$

Where: S – Power density

P – Power input to antenna

G – Antenna gain relative to isotropic radiator

R – Distance to antenna

Maximum peak output power at antenna terminal at 2.5GHz band: +19.7dBm (93mW)

Maximum peak output power at antenna terminal at 5GHz band: +15.3dBm (34mW)

Antenna gain at 2.5GHz band: 0.0dBi (numeric 1.00)

Antenna gain at 5GHz band: 3.0dBi (numeric 2.00)

Prediction distance: 20cm

MPE limit for General Population/Uncontrolled Exposure: $1\text{mW}/\text{cm}^2$

Intermediate results:

MPE safe distance (where is power density less than $1.0\text{mW}/\text{cm}^2$) at 2.5GHz: *2.72cm*

MPE safe distance (where is power density less than $1.0\text{mW}/\text{cm}^2$) at 5GHz: *2.33cm*

Power density at 20cm distance at 2.5GHz: *$0.020\text{mW}/\text{cm}^2$*

Power density at 20cm distance at 5GHz: *$0.014\text{mW}/\text{cm}^2$*

Final results:

MPE safe distance: *2.72cm*

Power density at 20cm distance: *$0.02\text{mW}/\text{cm}^2$*