

FCC ID: Q7O-0003

RF Exposure Statement for KarlNet PRA-0005.

Notice in Installation Manual:

FCC Radiation Exposure Statement

This antenna/transmitter device must be fixed-mounted on outdoor permanent structures with a separation distance of at least 2 meters from all persons. Users and installers must adhere to the antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance set forth under Part 15 of the FCC regulations.

RF Exposure Calculations:

The following information provides the minimum separation distance for the 19 dBi antenna provided as an integral part of **KarlNet PRA-0005**, as calculated from **FCC OET 65 Appendix B, Table 1B** Guidelines for General Population/Uncontrolled Exposure. This calculation is based on the highest EIRP possible from the system, considering maximum power and antenna gain, and considering a 1.0 mW/cm² uncontrolled exposure limit. The formula used was:

$$S = (Po * G) / (4 * Pi * r^2) \text{ or } r = \text{SQRT} [(Po * G) / (4 * Pi * S)]$$

Where S = 1.0 mW/cm² for 2400 MHz

Where Po = 0.061 W (Channel 1: 17.85dBm)

Where G = 79.5 (numeric equivalent to 19 dBi antenna gain)

Where r = Minimum Safe Distance from antenna (cm)

For PRA-0005 series, r = 19.64 cm

Notes:

1. The minimum safe distance is based on a conservative “worse case” prediction, i.e. using the formula shown above and no duty factor. In practice the minimum distance could be much shorter. (Ref. 2)
2. The minimum safe distance has been calculated for the maximum allowed Power Density (S) limit of 1.0 mW/cm² in the frequency range 1500-100,000 MHz for uncontrolled environments (Ref. 2).
3. The users manual and all documentation for this product recommend a minimum distance of 2m even though the calculated value is 19.64cm, as this product is intended for fixed installations.

References:

1. FCC Part 15, sub-clause 15.247 (b) (4) (i)
2. FCC OET Bulletin 65, Edition 97-01
3. FCC Supplement C to OET Bulletin 65, edition 01-01