RF Exposure Compliance

47 CFR 15.247(b)(4) states: “Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the commission's guidelines. *See* § 1.1307(b)(1) of this Chapter.”

The EUT is considered a portable transmitter per 47 CFR 2.1093.

The Maximum Permissible Exposure (MPE) estimates are as follows:

Table 1 of 47 CFR 1.1310 defines the MPE for the general population as $1mW/cm^2$. The distance from the EUT’s transmitting antenna to the distance where the exposure level reaches the maximum permitted level is calculated using the general equation:

$$S = \frac{PG}{4\pi R^2}$$

where:

S = power density
P = power input to the antenna
G = linear power gain relative to isotropic radiator
R = distance to the center of the radiation of the antenna

therefore:

$$R = \sqrt{\frac{PG}{4\pi S}} = \sqrt{\frac{(22.23mW)(1.26)}{4\pi (1mW/cm^2)}} = 1.5cm (0.59in.)$$

The $1mW/cm^2$ limit is reached at a distance of 1.5 cm (0.59 in.) or closer to the transmitting antenna. The antennas are located within a plastic enclosure that, under normal operating conditions, is located further than 1.5 cm from the operator.