

RF Exposure Exhibit for Roku TC2M1001

Mobile Devices are defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is maintained between the transmitter's radiated structure(s) and the body of the user or nearby persons. Therefore, this device is classified under section 2.1091 as a "mobile" device.

Although this device is categorically excluded from RF exposure evaluation under Part 2, it can be shown that the device meets the limits used for evaluating other devices (those which are not excluded) under this section. Section 2.1091 for mobile devices state that the limits are given in 1.1310. The limit given in 1.1310 for general population/uncontrolled at 2400 MHz is a Maximum Permissible Exposure (MPE) limit of 1 mW/cm².

The FCC OET Bulletin 65 Section 2 can be used to determine compliance with guidelines for human exposure to RF radiation. We will use equation 3 of that section for predicting RF fields.

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

S = power density (units e.g. mW/cm²)

P = power into to the antenna (or power output) (units e.g. mW)

G = power gain of the antenna (worst case = 1)

R = distance to the center of antenna (units e.g. cm)

The highest power measurement for this device is 15.92 dBm.

For this prediction we will use a worst-case power of 15.92 dBm or 39.0841 mW.

Since the device is "portable", we will use a worst-case distance of 20 cm.

For worst-case antenna gain, we will use a gain of one.

Using equation 3 of OET Bulletin 65 Section 2, the power density is calculated to be 0.007779476 mW/cm². This is well within the limit given in 1.1310.