

MPE Calculation:

The TCB exclusion list defines the low power threshold in milliwatts for devices transmitting closer than 2.5cm as $60/f$, where f is the midband frequency in GHz. The midband frequency for the EUT was 2.441 GHz., yielding a low power threshold of 24.58 mW. This is the threshold power below which SAR testing is not required.

The output power of the device was 0.493 mW EIRP.

The maximum permitted exposure for the general population is 1mW/cm^2 . The formula used for MPE calculations is:

$$P_d = PG / 4\pi r^2 \text{ where}$$

P_d = power density in W/cm^2

G = numerical antenna gain

r = minimum allowable distance

P = RF power to the antenna

Solving for r using the power density limit of 1mW/cm^2 ,

$$r = (PG / 4\pi P_d)^{1/2} = (0.00049 / 4\pi)^{1/2} = 0.00626 \text{ cm}$$