

**Environmental evaluation and exposure limit according to
FCC CFR 47 part 1, §1.310.
BLE communication module FCC ID: WCH99956085B**

FCC §1.1310 limit of power density for general population/uncontrolled exposure is 1 mW/cm².

The power density calculation is $S = (P_t / 4\pi r^2)$.

Where:

P_t - The transmitted power EIRP (mW)

r - The distance from the unit. (cm)

The minimum allowed distance from transmitter calculated from the above based on the following data:

BLE transmission module maximum EIR power = 1.41 mW.

Maximum allowed distance “ r ”, where RF exposure limits may not be exceeded = $\text{SQRT}(1.41/4\pi)$ and is more than 1 cm from the tested unit.

The EUT defined as module inside portable device designed to be used so that the radiating structure(s) of the device may be used at 20 centimeters distance from the body of the user. Peak power density S for distance 20 cm is $P_t/4\pi r^2 = 1.41 \text{ mW}/4\pi * 0.2^2 = 0.000281 \text{ mW}/\text{cm}^2$. That is less than 1 mW/cm² power density limit.

The two modules (BLE and WiFi) might be co-located
WiFi transmission module (FCC ID: WCH99956085W) maximum EIR power = 37.15 mW
Co – located maximum EIR power = 38.56 mW

Maximum allowed distance “ r ”, where RF exposure limits may not be exceeded = $\text{SQRT}(38.56/4\pi)$ and is more than 1.75 cm from the tested unit.

The EUT is defined as module inside portable device designed to be used so that the radiating structure(s) of the device may be used at 20 centimeters distance from the body of the user. For co-location case peak power density for distance 20 cm is $P_t/4\pi r^2 = 38.56\text{mW}/4\pi * 0.2^2 = 0.00767 \text{ mW}/\text{cm}^2$. That is less than 1 mW/cm² power density limit.