# RF Exposure

FCC ID: LLB2020005

For Bluetooth (2.4 GHz), These calculations are based on the highest EIRP possible from the EUT considering maximum power output and antenna gain or the highest EIRP possible from the EUT, measured in the radiated mode. 100 % duty cycle for the calculations even thought the duty cycle is lower in actual use.

For the 450-470 MHz Radio, it is based on conducted power and a max gain of 5 dBi.

There is a firmware-controlled duty cycle. The firmware is set to limit duty cycle at 1% duty cycle or less in any given 6-minute period.

## 1.0 RF EXPOSURE PER FCC 1.1310

| Band | Freq. (MHz) | Max Power (dBm) | Max Power (mW) | Max Ant Gain (dBi) | Max Ant Gain above Isotropic (numeric) | Duty Cycle % | Max EIRP (mW) | Power Density at 20 cm (mW/cm^2) | (S) GP Limit (mW/cm^2) | MPE Ratio |
|---|---|---|---|---|---|---|---|---|---|---|
| UHF | 450 | 29.7 | 933.25 | 5 | 3.16 | 10.0 | 295.12 | 0.0587 | 0.300 | 0.1957 |
| Bluetooth | 2480 | 7.2 | 5.25 | 0 | 1.00 | 100.0 | 5.25 | 0.0010 | 1.000 | 0.0010 |
| | | The UHF is a modularly approved radio | | | | | | | Total | 0.1968 |

Notes on the above table:

a. S is the power density General Population Limit from FCC 1.1310 Table 1
b. EIRP Power is the Peak Effective Radiated Power.
   EIRP = (Average Conducted Power + Antenna gain) * Duty Cycle.

**POWER DENSITY**

Power density is given by:

$S = EIRP / (4 * Pi * D^2)$

Where

S = Power density in mW/cm^2
EIRP = Equivalent Isotropic Radiated Power in mW
D = Separation distance in cm

Since the calculated power density is less than the limit, this product fully meets the OET 65 requirements for the general population.