

US Tech Test Report:
FCC ID:
Test Report Number:
Issue Date:
Customer:
Model:

FCC Part 15 Certification
2AHQD-SENSOR4
22-0125
June 6, 2022
Clean Hands Safe Hands, LLC
Gen4 Sensor

Maximum Public Exposure to RF (MPE)

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, S, of 1 mW/cm² at a distance, d, of 20 cm from the EUT.

Therefore, for:

MPE for 2400 MHz Radio Device

BLE (Bluetooth Low Energy) radio

Peak Power = +0 dBm
Peak Power = 0.001 W
Gain of Transmit Antenna = +3.3 dBi
(2.14 numeric)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S_{BT} &= (PG / 4\pi d^2) = EIRP / 4A = \\ &= (0.001 * 2.14) / (4 * \pi * 0.2^2) = \\ &= 0.0021 / 0.5030 = 0.00425 \text{ W/m}^2 \\ &= (0.00425 \text{ W/m}^2) * (1 \text{ m}^2/\text{W}) * (0.1 \\ &\text{ mW/cm}^2) \\ &= 0.000425 \text{ mW/cm}^2 \end{aligned}$$

Zigbee Radio

Peak Power = +6.2 dBm (as measured
from ZigBee report)
Peak Power = 0.004 W.
Gain of Transmit Antenna = +3.3 dBi
(2.14 numeric)
d = Distance = 20 cm = 0.2 m

$$\begin{aligned} S_{ZB} &= (PG / 4\pi d^2) = EIRP / 4A = \\ &= (0.004 * 2.14) / (4 * \pi * 0.2^2) = \\ &= 0.0086 / 0.5030 = 0.0171 \text{ W/m}^2 \\ &= (0.0171 \text{ W/m}^2) * (1 \text{ m}^2/\text{W}) * (0.1 \\ &\text{ mW/cm}^2) \\ &= 0.00171 \text{ mW/cm}^2 \end{aligned}$$

$$S_{\text{Total}} = S_{BT} + S_{ZB} = 0.000425 \text{ mW/cm}^2 + 0.00171 \text{ mW/cm}^2 = 0.002135 \text{ mW/cm}^2$$

Which is less than S = 1 mW/cm²