RF Exposure

The equipment under test (EUT) is a wireless 2.4G module/RF01 with 2.4GHz function operating in 2410-2470MHz. The EUT is powered by 1.9-3.6VDC.
For more details information pls. refer to the user manual.

2.4GHz Transmitter (2410MHz to 2470MHz):
Antenna Type: PCB antenna on board
Modulation Type: GFSK
Antenna Gain: 0dBi Max

The nominal conducted output power specified: 4.0 dBm (±2dB)
The nominal radiated output power (e.i.r.p) specified: 4.0 dBm (±2dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 100.5 dBμV/m at 3m in the frequency 2470MHz
The EIRP = [(FS*D) ^2 / 30] mW = 5.27dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 97.7 dBμV/m at 3m in the frequency 2410MHz
The EIRP = [(FS*D) ^2 / 30] mW = 2.47dBm
which is within the production variation.

The maximum conducted output power specified is 6.0dBm= 3.981mW
The maximum ERP is 3.85dBm= 2.427mW

$$P_{\text{th}}\ (\text{mW}) = ERP_{20\ \text{cm}}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

The ERP Exclusion Threshold Level:
P_{th}(mW) = $\text{ERP}_{20\text{cm}}$
= 3060 mW

The ERP Threshold is 3060mW for general population and uncontrolled exposure in the 2.4GHz frequency range according to FCC Part 1.1307. As the maximum ERP at 20cm from the transmitter is lower than the ERP Threshold, the compliance to the ERP Threshold can be ensured by indicating the minimum 20cm separation between the transmitter's radiating structure and body of the user or nearby persons.