RF Exposure

The equipment under test (EUT) is a Bluetooth keyboard case with Bluetooth 5.1 (Single Mode BR) function operating in 2402-2480MHz. The EUT is powered by DC 3.7V by rechargeable battery and charged by DC 5V through adaptor. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, π/4-DQPSK and 8-DPSK
Bluetooth Version: 5.1 (Single Mode BR)

Antenna Type: Integral antenna.
Antenna Gain: 1.87dBi Max
The nominal conducted output power specified: -11.87dBm (+/-3dB).
The nominal radiated output power (e.i.r.p) specified: -10dBm (+/- 3dB).

According to the KDB 447498:

The maximun peak radiated emission for the EUT is 85.1dBμV/m at 3m in the frequency 2402MHz
The EIRP = [(FS*D) ^2 / 30] mW = -10.13dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 82.6dBμV/m at 3m in the frequency 2441MHz
The EIRP = [(FS*D) ^2 / 30] mW = -12.63dBm
which is within the production variation.

The maximun conducted output power specified is -8.87dBm = 0.13mW
The source- based time-averaging conducted output power
= 0.13 * Duty factor mW (where Duty Factor≤1)
= 0.13mW

The SAR Exclusion Threshold Level:
= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.480) mW
= 9.53 mW

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.