RF Exposure

The equipment under test (EUT) is a Realtree XD UTV 24V BLACK with Bluetooth 5.0 (Single Mode EDR) function operating in 2402-2480MHz. The EUT is powered by DC 24V by rechargeable battery. Once use the USB cable charging to the EUT, the wireless function will be disabled. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna
Modulation Type: GFSK, π/4-DQPSK and 8-DPSK
Antenna Gain: 0dBi Max
Bluetooth Version: 5.0 (Single Mode EDR)
The nominal conducted output power specified: -10.0 dBm (±3dB)
The nominal radiated output power (e.i.r.p) specified: -10.0 dBm (±3dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 85.3 dBμV/m at 3m in the frequency 2480MHz
The EIRP = [(FS*D) ^2 / 30] mW = -9.93dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 83.2 dBμV/m at 3m in the frequency 2402MHz
The EIRP = [(FS*D) ^2 / 30] mW = -12.03dBm
which is within the production variation.

The maximum conducted output power specified is -7dBm= 0.200mW
The source- based time-averaging conducted output power
=0.200* Duty cycle mW =0.200 mW(Duty cycle =100%)

The SAR Exclusion Threshold Level:

P_{th}(mW) = ERP_{20cm} * (d/20cm) ^{x} (X= $-\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right)$)

= 3060 * (0.5/20)$^{1.9}$ mW
= 2.72 mW

Since max. power of the source-based time-averaging conducted output power and effective radiated power (ERP) is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.